

The DAILY HEALTH BUILDER

C. WARD CRAMPTON, M.D.



BY C. WARD CRAMPTON M.D.

PHYSICAL EXERCISE FOR DAILY USE
THE DAILY HEALTH BUILDER

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by
C. Ward Crampton



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INTRODUCTION

The Health Doctor leaned back in his chair, and looked across his desk at his newest health client.

He had just finished an hour's examination, which searched the man from top to toe, inside and out,—his heredity, life-time experience, and his ailments past and present.

He had completed his medical survey, arrived at his incisive conclusions, and was thoughtfully developing a program to shake from the lap of the gods the best, most vigorous and most brilliant future within the realm of reasonable possibility.

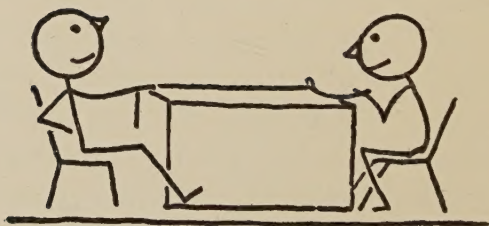
The health client was a typical high-class corporation president, who had used up much of his biological endowment in his vigorous struggle upward from farm boy to be a factor reckoned with in the affairs of the nation. His splendid body had deteriorated. There were a few definite signs of oncoming chronic disease not yet established, and these could be fought down. But his body was soft; he needed, among other things, exercise,—consistent, well chosen, regular daily exercise, to recoup his forces, re-make his

vitality, and send him singing through two more powerful, overcoming decades to a serene and green old age.

He knew vaguely about exercise,—much of which was useless,—for him. He needed a program exactly fitted to his needs, interesting, progressive and producing results.

Like every intelligent man, he wanted to know *why*. The physician's time was too limited to devote to explanations even for this important health client, or for the others and their wives and children who would come tomorrow and the next day.

So he wrote this book,—a prescription of exercise to be used under your own physician's instructions.



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THE DAILY HEALTH BUILDER

CHAPTER I



BUT, FIRST——

But, first——

But first get your health examination. Our business giant did. He had a habit of seeking out the best and only the best, and getting it. He didn't believe in feeble half measures. He always gave himself every possible advantage in anything he thought worth while undertaking.

Now he wanted the most vigorous health he could reasonably attain. He wanted his adviser to make a thoroughgoing survey of his body, life processes and prospects, just as if he were a skilled, certified public accountant going through a business corporation. There would be no unsettled questions; he would get only the right advice exactly fitted to his own personal needs. He wanted the best.

For those like-minded the following suggestion is given;—Apply to your own physician for a diagnostic

health examination in accord with the following summary as written by the author, and adopted by the Medical Society of the County of New York, and published by them as instruction to physicians:

THE HEALTH EXAMINATION SHOULD COMPRISE THE
FOLLOWING:

1. Heredity:

A study of the tendencies toward health, longevity or disease in the family tree of which your health client is a branch. An estimation of their influences in the client's future, and the value of these facts as guides to his plan of life management.

2. Habits and Hazards of Life:

The methods of living which daily influence physical condition; habits of work, diet, exercise and play; conditions of home and labor, which go to make or break a man.

3. Disease:

(a) Discoverable disease actually present but not apparent to the patient, though he may fear its presence. It is an error for doctors to confine their attention to this item alone and call it a health examination.

(b) Pre-Clinical Signs of Disease, not evident to

the patient as symptoms but discoverable by the well trained physician. By taking heed to these seemingly insignificant indications actual disease may be prevented or postponed.

(c) Deficiencies in the Structure of the Body which handicap it in its daily life, decrease its resistance and favor disease. Disclosed by test and measurement.

(d) Organic Deficiencies in Function and failure of service which impoverish the whole body and precede local and general deterioration diseases. Discovered by tests of function.

(e) Record of Previous Diseases which have sapped vitality or left organic weakness to breed later breakdown.

4. Instruction of the Health Client:

What treatment is necessary for pathological conditions at present? What manner of diet, exercise, recreation or change in mode of life is necessary to improve his condition, prevent disease and delay deterioration?

This is the most difficult part of the "health examination," for it requires a sympathetic knowledge of life as well as of medicine. Without it, however, the health examination is of little or no value.

With the health *client* realizing how greatly

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medical science can enhance daily life, and with the full realization on the part of the *physician* of his splendid opportunity, the health *examination* is merely the beginning of the health *service* which continues from year to year.

Get this—or better.

The Health Examination adds years to life, and robs the future of its menace and gives a sense of confident assurance. You know exactly where you stand, exactly what you should do. Serene security adds a flavor to life that you never suspected.

Moreover, it tells you just what exercise you need, and why.



CHAPTER II



WHAT IS PHYSICAL EXERCISE?

There are as many different kinds of exercise as there are different kinds of food, and their effects are just as various as different kinds of medicine.

Some exercises will increase the heart rate; others, strange to say, will actually make it slower. Some will increase the weight of the body; others will take the weight off.

Exercises will rest or excite, build up or tear down; depending upon what they are and how they are done.

THREE PARTS OF MAN

1. Structural Framework
2. Internal Organs
3. The Mind

THREE CLASSES OF EXERCISE

1. Anatomical
2. Physiological
3. Psychological

1. Anatomical.

The framework of bones, ligaments and muscles, the anatomical structure of the body, needs exercise.

This structure may be sturdy, straight and strong, or weak, crooked and lax. Exercises which make and keep the structure of the body straight and strong I call *anatomical* exercises.

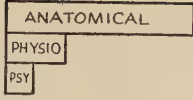
2. Physiological.

The internal organs, the heart, lungs, liver, kidneys and digestive tract and glands are the organs which conduct the physical life of man. They perform the processes of living. Their activity may be weak, irregular and impaired, or vigorous and full of singing, vital energy. Exercises which stimulate the activity of the internal organs and make them strong I call *physiological* or organic exercises.

3. Psychological.

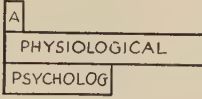
We think and feel. We have mind and emotion. These are much influenced by what we do. Some things we do are interesting, entertaining,—they are fun: for instance, games, play and dancing. These are exercises which may be more psychological than physical. But there is a psychological element in all exercise, and it must be taken into consideration. Almost all exercises are good fun of one kind or another, though some test the will and train it, others require determination and effort which to normal man is a quiet but very real satisfaction. All useful

"STAR GAZER"



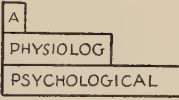
A corrective exercise. Necessary to every one. Contrast its high anatomical effect with low anatomical effect of other exercises

BASKET BALL



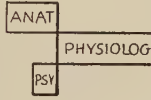
The most vigorous exercise known short of actually fighting for one's life

GOLF



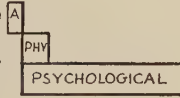
Recreation with a little physiological exercise from walking. Hitting the ball is little exercise unless you are a dub and need many strokes

LABOR



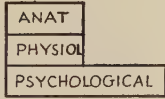
It may have physiological value. Hitting the ball is little exercise unless you are a dub and need many strokes

CROQUET



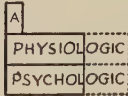
Scooping over makes this of *minus* anatomical value. Recreation with almost no exercise

VOLLEY BALL



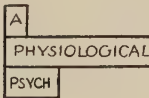
Looking up makes this of positive anatomical value. Recreation with a little exercise

WALKING



Physiological effect varies with speed. Psychological effect varies with companionship and interest

RUNNING (PEP, HOPS)



The greatest and simplest physiological exercise

exercises can be interesting. There is no good reason why they should be a bore.

Every exercise has these three elements present in varied proportions.

STORIES IN BODIES

Here is a young man, a clerk of thirty-four years of age. His chest is hollow, his shoulders fallen, and his head hangs. His skin is muddy, he complains of indigestion, frequent colds, and he has a persistent pain in his right side.

He feels down and out—and he looks it. In fact, “*down and out*” is his main trouble.

Look at him! His head is down, his chest is down, and his abdomen is bulging out. It is no wonder that his health and spirits are down too.

He is anatomically distorted. His lungs and heart are cramped; the abdominal organs slump; his blood pressure similarly is low, and all his vital processes drag and stagnate.

He is ready to fall an easy prey to any ambitious disease germs that may be about, from tuberculosis to typhoid.

He is only half alive, and is losing ground fast.

His main trouble is *anatomical*. The attraction of gravitation has weakened, distorted, and pulled him down.

He may be suffering from any one of a dozen different illnesses; but he has allowed himself to become the picture of ill health for his *posture* is the posture of ill health.

THE POSTURE OF HEALTH

Lift up that head. Raise the chest. Straighten the spine. Elevate the ribs. Tighten the bulging abdomen,—and you have a new man. Now his heart and lungs have room; the liver is lifted; the intestines are no longer in a mess in the pelvis; the blood is drawn up to the heart from the stagnant vessels of the abdomen and goes coursing through the body.

The man lives!

The only change we have made is *mechanical*. We have taken a slouch and made a human being, merely by lifting up and replacing the parts of the body that had been sagging down.

Exercises which will make these muscles do the mechanical work of replacing and upholding the man's body in the position of health, are *anatomical* exercises, for they are used to cause an anatomical improvement.

You must put yourself into the Posture of Good Health if you would win it.

PHYSIOLOGICAL EXERCISE AND ORGANIC HEALTH

The bodily appearance of health is not everything. Looks may be deceptive. A man may have the muscles of a Hercules, with a straight back like a drum major, but still lack vitality. Like the auctioneer's second-hand clock, he may have a beautiful front, but no works to speak of.

How can you be made strong inside? How can your organs be toned up, put into condition and the currents of life made vigorous, smooth and powerful?

Again the answer is exercise, but exercise of a kind entirely different from anatomical exercise.

For good posture we used exercises which added a special, direct effect upon the muscles themselves but now we need the *effects of muscular exercise on the internal organs*, for it is only by muscular work that we can strengthen the heart, lungs, stomach, liver, intestines and endocrine organs. Pills will not do it, neither will massage nor yet faith, for "faith without works is dead." This is true of life as well as of religion. Exercises are needed that will make the organs work, and work hard!

PHYSIOLOGICAL EXERCISES

What happens when we use the muscles? The muscle contracts, it uses up oxygen and the food that

is stored within its substance. It calls on the blood for more supplies. The blood vessels and the muscles while exercising contain from six to eight times more blood than the resting muscles! More blood must therefore be called up from the great storage places, the blood reserve in the veins of the abdomen. The heart must work harder and faster. The lungs must supply more oxygen. This is why muscular exercise is heart and lung exercise.

The supply of food in the blood is soon used up. More must be obtained. It is found in the liver where it has been stored since the last meal and it is transmitted to the muscles by the blood. Muscular exercise is also liver exercise.

When the supply is decreased below a certain point, the stomach and intestines are notified that more food is needed, more food, more food quick, and they then send word up to the brain "I am hungry!" This is the only way to get a real appetite and the only incentive the body has to digest a good meal. A well used stomach cannot have dyspepsia,—an active set of intestines cannot poison the body. Muscular exercise is therefore exercise of the gastrointestinal tract.

All of the ductless glands, endocrine glands as they are called, and the sympathetic or autonomic nervous systems, the telephonic connections of the

organs, are made to work by exercise for they are the executives and business officers of the organs (the "corporation" if you like).

Muscular exercise can therefore be made organic exercise. In no other way can we make the organs strong and in no other way can we keep them strong.

We do not need large muscles, we do need our organs in tune and working in harmony. Exercises of a rhythmic vigorous nature are the best for the purpose as you will see further on.

PSYCHOLOGICAL EXERCISE

The Effects of the Body on the Mind

Man is made not only of framework and internal organs. He "has a heart." He thinks, and what is more important, he feels. If he has a good body in good running order, the mass of sensations arising from his "subconscious mind" form an undercurrent of happiness. He is likely to greet his friends in the morning with a "Why, hello, old man, how goes the world this morning?" instead of a formal, half grumpy "G'morning, h'ware you?" Physical conditions have many mental effects.

By reason of strong muscles, man holds his head high, he has a sense of "up and coming." He feels superior to, or at least as good as, anyone else. If he

holds his chest up he will have a sense of power. High head, high chest—high thoughts.

If his heart beats smoothly and strong and the digestive organs are in good tone, he has a sense of well being. He feels "good." The Chinese many centuries ago, while recognizing the fact that logic and intelligence resided in the head, located the soul with its feelings, emotions, exaltations and depressions, in the abdomen. Modern science reveals the great knots of nervous tissue below the diaphragm, the solar, semi-lunar and other plexuses behind the stomach.

But there are things other than the crude influence of flesh on the brain. Man needs to exercise his mental muscles and the organs of the mind itself for the mind has its own structure and operations.

EXERCISES OF THE MIND ITSELF

The mind was made by the long struggle of the race for existence in forest, mountain and stream. Man had to run, jump, climb, throw, swim and fight. He lived a very keen life that rejoiced in struggle and in contest and his children lived to be our ancestors. Those who did not possess these qualities died and their children with them. So the minds that are handed down to us are filled with these racial experiences. We are trained by heredity to enjoy them.

1

Therefore we go to see contests in speed of man, horse, automobile and aëro. We enter into the contests of baseball, football and prize ring with the players and pugilists and share their fortunes. We enjoy even the sedentary games of skill so long as we ourselves are contesting or attached to one side or the other by interest. We like these things.

We need contest, particularly the men of us, and we all need the out-of-doors. We need exercises that give us enjoyment and happiness for they have the stamp of nature's approval. We need exercises that require effort, precision and accuracy to discipline the mind and strengthen the will and to give it a satisfaction of accomplishment, for this is the method that nature used to make a superior race out of the ruck of the common crowd.

In short, medical science selects exercises:

1. To make the body structure erect and enduring
2. To make organic operation sustained and powerful
3. To add to the fun and enjoyment of life.

CHAPTER III



MORNING EXERCISE

HOW TO START

All systems of morning exercise hitherto presented assume that you are out of bed standing on the floor in your pyjamas with a happy smile on your face. This is a mistake. You are in bed, very comfortable, and intending to stay there. The morning exercise should start where you are. It should begin just where you find yourself and gradually wake you up, little by little, each exercise adding power for the next one until you are up and going, ready for anything.

Consider the automobile.

Before you can roll down the street you must wake up the car and get it going and ready to take up its load. You first wake up the self-starter and after

a rumble or two the motor catches the spark and begins to throb. You give the throttle a push with the foot and warm up the engine. Then you gradually let in the first speed; after momentum is gained, the second and then the third speed and you are off, carrying the load which you were built to carry.

This is the way to start the human automobile on its daily course.

THE GREEN LIEUTENANT

Most men have the wrong idea about morning exercise. They want to do too much.

Once when I was an observer attached to a military camp during the war, I came over the brow of a hill upon a company engaged in its daily morning "setting-up" exercise. It was a medical reserve corps, a group of physicians just called to the colors. They were getting their first morning exercise. A young lieutenant was up on a platform in front of them. He had his little orange colored regulation book in his hand. He was giving vigorous trunk and leg exercises calling for tremendous heart and lung activity. The men before him stuck gamely to their work. They were "in the army now," they were prepared to be heroes and they found their task commencing early. They would not quit. Their faces became ashen as they sweated doggedly on.

Here and there was a face with a ghastly stricken look that physicians recognize as circulatory exhaustion. After they had been given fifteen minutes of the hardest kind of work the young lieutenant turned the command over to the regular captain and stalked off the platform as if to say, "Look at what I have done to these fellows! Me! I am one great man!"

He soon found out his mistake for it was explained to him thoroughly in the presence of his commanding officer an hour later,—but if he had been an enemy of his country trying to do as much damage as possible in fifteen minutes, he could hardly have taken a better method.

Vigorous exercise has no place before breakfast.

WHAT WE WANT TO ACCOMPLISH

What can we get out of it? What purposes, what results? What are the best exercises we can find?

The best answer I can give you is in the following seven exercises. They take the man where he is and put him where he wants to be, up and going.

The first three exercises are taken in bed, the fourth sitting and the last three standing. Each exercise has its own individual purpose and effect upon the body and the mind. Each exercise prepares for the next as naturally as one breath follows another.

A minor effect of an exercise becomes the major effect of the next.

Muscular work is not emphasized for organic health is desired, not large muscles. Circulation and digestion, the fundamental processes, are stimulated and improved.

* * * *

Each exercise is the result of over a quarter of a century of study, research, practice and experiment and is the best that this kind of earnest effort has so far produced. Each exercise has passed many, many searching tests. It is the champion of its kind.

The whole series of seven is the result of an endeavor to get the best seven exercises as a group as well as the seven best individual exercises. They recognize the low vitality of the newly awakened sleeper and build that vitality up to a climax at the sixth exercise and at the seventh weld the man into as nearly a perfect vital human being as he is capable of becoming.

The schedule of exercises is given below. Each exercise is briefly described and pictured in the next chapter. Afterward each exercise is fully discussed in a separate chapter and its physiological action described. The great diversity of human needs can never be met exactly by any set of seven, ten or a dozen exercises. Therefore other exercises of the

same group to which each belongs are presented and analyzed so that the seeker after good health in great abundance can make progress with the help of his physician or physical director and work out his own salvation.

<i>Name</i>	<i>Major Effects</i>	<i>Minor Effects</i>
1. The Stretch	A mild preliminary stimulation of the whole body.	Leg muscles contract, back straightens, general muscular contraction, organic massage, aspiration of the thorax, mechanical stimulation of the circulation.
2. Pumping	Mechanical stimulation of the circulation by increasing the aspiration of the thorax.	Preliminary abdominal massage; exercise of the diaphragm, abdominal wall and intercostal muscles; relief of abdominal congestion.
3. Kick-Up	Exercise of abdominal muscles and getting out of bed properly.	Preliminary trunk and abdominal exercise in a horizontal position; organic massage.
4. Churning	Abdominal organic massage.	Abdominal muscle training, flexibility of the spine, stimulation of spinal cord and sympathetic nervous system.
5. Tickle Toe	Trunk muscle training for the upright position.	Abdominal massage, circulatory stimulation, development of chest, neck and shoulder muscles.

6. Pep Steps Heart training, circulatory stimulation. Leg muscle exercise, flat foot insurance, general body stimulation and action as a unit. Fun.
7. Star Gazer Good posture for the day. Moulding the man into an attitude of power. Adjustment of the muscles to their final best position for the day's work. Chest raising, abdominal wall solidifying, complete assembling of body forces.

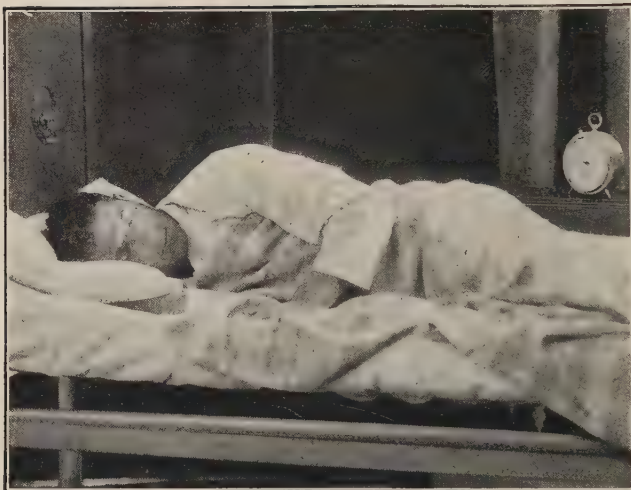
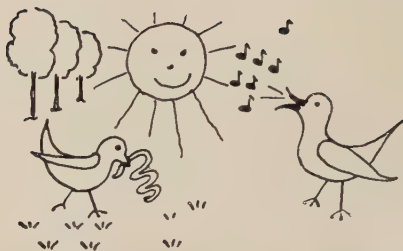


CHAPTER IV



EXERCISES

1st EXERCISE.



DESCRIPTION

1. Place hands on shoulders.
2. Fists tight.
3. Take a deep breath, lifting the chest. Push the head back.
4. Bend the body to the right. Stretch the left arm up. Right arm out and
5. S-T-R-E-T-C-H.
6. Twisting the body about.
7. Straightening out the arm and finally letting the breath go as the stretch comes to an end.
8. REPEAT once more bending to the left.



THE AWAKENING INSPIRATION



DIRECTIONS

This is a *Natural Stretch*.

Scientifically started and
scientifically reinforced, ex-
actly what Nature would
have us do on waking. So
enjoy a good long-
drawn-out

R-E-E-E-T-T-C-C-H !

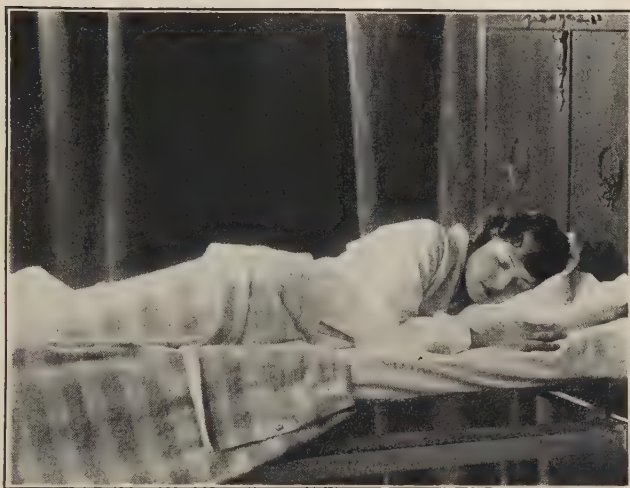
Get the head way back,
long deep breath: feel
the stretching impulse,
then twist and bend, get-
ting the whole body into
drawn-out to the toes.

Drawn and grunt all you
want to,—the more the
better.

Rest a moment, taking
a couple of comfortable
breaths, then take another
long stretch, twisting
the other side.

But only *one* more.

Then start the next exer-
AT ONCE.



PUMPING



UP



DOWN



DESCRIPTION

Lie free and easy without tenseness.

1-2-3-4-5-6

First six counts: Make the chest *Big*, pulling up, letting the abdomen become hollow.

7-8

Seventh and eighth counts: Make the chest small, pushing down, making the abdomen large.

Repeat—three times (five times) without breathing. Then: Take three slow long breaths.

Then take another three times (five times) till you have done fifteen (twenty-five) in all.



CIRCULATION MASSAGE

UP



DOWN



EXPLANATION

-2-3-4-5-6

This is a *see-saw* movement.

The chest lifts while the abdomen falls. It is also a *pumping* movement. When the chest gets big it sucks the abdominal wall and as the chest goes down the diaphragm makes the abdomen bulge.

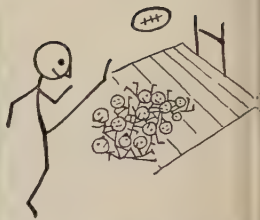
The spine must always lie flat on the bed. Arching the chest by lifting the back if the bed is wrong.

-8

Do not breathe while you are pumping. It diminishes the effect on the circulation.

Stop after three times and breathe. Gradually increase until you do five times without stopping. Do from fifteen to twenty-five in all.

3rd EXERCISE.



Description

Lying on the back in bed after pumping.

1. Raise right knee to chest.

KICK the bedclothes over the foot of the bed—one kick.

2. Left knee to chest.

KICK the rest of the bedclothes over the footboard.

3. Raise both legs up straight.

4. Let them fall over the side of the bed and



SIT UP

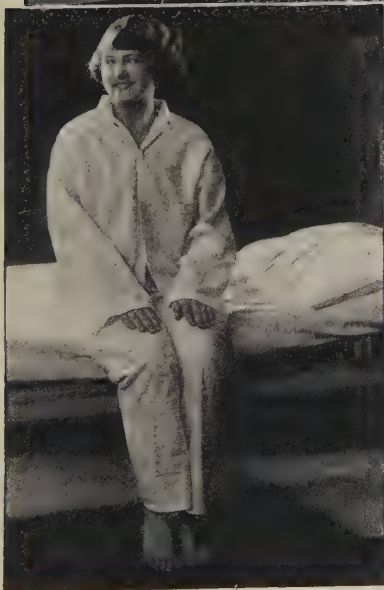
and say Hello to the World!



THE
KICK-UP*Explanation*

This is the real wake-up,—the proof that you are alive (and kicking).

Put some energy into it. If you wish to kick a few more kicks after the air has been cleared of flying covers, do so—half a dozen is enough.



Take a bicycle trip while you are at it.

Then give a whirl and sit up.

You will find yourself on the right side of the bed.

CHURNING



This exercise is hardest to learn and easiest to do. Sit down in front of a mirror. Put on a belt with the buckle in front, in its regular place. Tie a string to a bottle or a jackknife and hang it from the chandelier. Sit directly underneath it. The trick is to make a big circle with the belt buckle while the head keeps directly under the jackknife.



Begin by practicing the front and back movement only. It is the diameter of the circle you eventually will make. First crumple down, then straighten up—keeping your head where it belongs and making the buckle travel at least six inches forward and back. Have you got it?

Now practice the side to side movement. Simply move the belt buckle to the right, making a bow of the body while you keep the head under the string. This raises the other hip till it almost touches the elbow. Now move the belt buckle back to the other side, bowing the body to the left. Practice till you get a good free movement.

KUNDALANI



Now you are ready to try the whole circular movement. Start in front belt buckle forward and curve to the right side on your way to the back. You make a semi-circle.

Continue

your way around coming forward by way of the left side—and you have completed your circle and are sitting up straight again. You have learned the movement. Do it again and again until you make large, slow, perfect circles without any angles or bumps and be especially careful to keep the head in place.

When you have learned the circle to the right, try it in the opposite direction.

Ten times each way is good. Twenty is better.



5th EXERCISE.

THE TICKLE TOE



1. Spread the feet apart 24 inches. Stretch the arms sideward just a little higher than the shoulders. Now swing the arms around with a sailing motion twisting the body to the right. See the picture of the young woman on the opposite page. She is on her way but will go much further.



Twist as
far
as you
can. Keep
trunk erect.

Keep the
arms on
the level.

2. When you have gone back as far as you can, start to swing forward; twist the body to the left in the same way you did to the right and swing as far as you can in the opposite direction till the other arm is now straight back.
You have now made two twisting swings to right and left and you are ready to swoop down and tickle the toe.



THE AEROPLANE EXERCISE



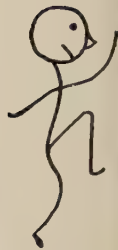
3. Here is where you must not go wrong. Get your eye on the hand that is back of you. *That* is the one. Swing it forward and down in a great circle in front of the body to the opposite toe (the right). Now you have sailed along through three counts and landed on the right big toe. Next you are going to take three more and get to the left one.



SWING SWING TOUCH is the Rhythm

1. Take the left hand from the toe and swing it up and back to the place it just came from.
2. Sail to the right at shoulder level—way back with the right hand.
3. Next—take the *rear* hand and swing it forward and down in a great circle to left toe. You see you did a SWING SWING TOUCH again. Now sail along for ten or twelve times.

THE SIDE ROCKER



Take two hops on the right foot just as if you were saying one! two! with the foot itself. At the same time lift the other leg up at the side.

Then

Take two hops on the left foot, swinging the right leg up to the other side. Repeat, rocking back and forth from side to side. Twenty-four to 36 hops is enough.

(Try it with only one hop.)



PEP HOPS



Hop on the left foot 8 counts.

Then hop left four counts

Next hop left two counts

Then run four counts

1 2 3 4 5 6 7 8

1 2 3 4

1-2

1

3

and stop on

Then hop on the right foot 8 counts.

1 2 3 4 5 6 7 8

and hop right four counts.

1 2 3 4

and the same on the right.

1-2

2

4

Finish with a flourish—once or twice is enough. Do stunts with the leg you are not using for the hops.

7th EXERCISE.

THE STAR GAZER

Clasp the hands behind the head, not the neck, and pull the head forward on count one.



On two head front.



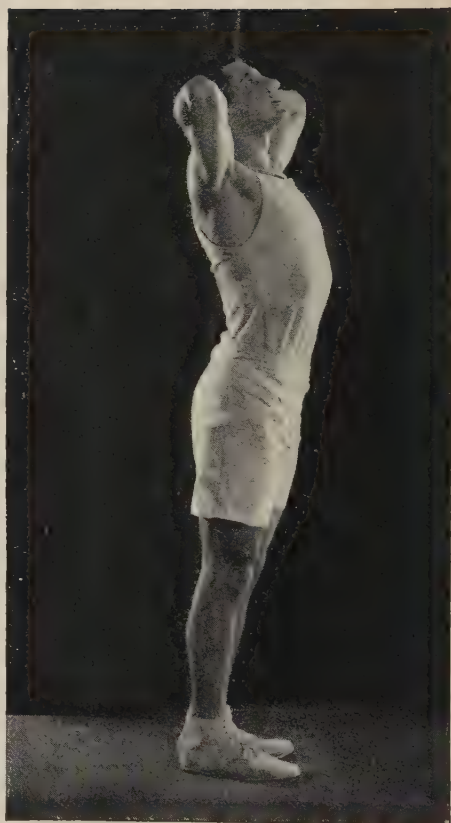
On three look up.



On four push the head back as far as you can look up and try to look at the back of your neck.



Hold this position for four more slow counts with the chest high. Take two good long breaths and repeat slowly three times and you have completed your morning exercise.





EXERCISE 7.



Exercise in the uplifted position will help to make it permanent. Instead of merely holding the upward looking position for the last four counts of the eight, twist the head from side to side letting it turn in the clasped hands.



Or, still holding the head back and facing the sky, bend the trunk a little from side to side four times to finish your eight counts.

Feel the uplift in the head, neck, chest, back and throughout the whole body, and keep it during the day.

CHAPTER V



HOW THE CAVE MAN WOKE UP

When Ab, the chief of the Stone Hatchet Clan, crawled into his new cave he found it cold; fire had not yet been domesticated. He was weary with the eviction proceedings which he had conducted personally with great success at the expense of the previous tenant. Though he had a few wounds and bruises to nurse, as he looked the cave over, noted its spaciousness and the convenient narrow opening which could be securely barricaded from the inside, he counted it a good day's work. He barked his own private call and his wives, retainers and children slid down from trees and other points of vantage where they had witnessed the battle aforementioned.

The cave was good, but like most old-fashioned apartments, it had no heat, and winter had just begun. It was cold, but they slept huddled together and each in a position which made every bit of per-

sonal warmth serve its owner rather than the atmosphere.

Look at Ab in dignified aloofness near the door! His chin resting upon his updrawn knees, his arms clasping the lower legs, he made himself as nearly as possible into a round ball, the whole front of the body in contact with the thighs, and the thighs in contact with each other. This is the racially old position of sleep. The body grew to adapt itself to it.

Often our ancestors were huddled out in the rain and the water ran down the shoulders and forearms and dripped off the elbows. Thus the hair grew in a natural thatch to shed the water toward the elbow and from the knee, as perfect a mackintosh as the back of a duck.

In the morning Ab woke up. All night long the muscles of his neck and back had been stretched, while the muscles of his chest and abdomen and the whole front part of the body had been shortened. The chest was cramped. He opened his eyes, glanced over his new home and his sleeping clan, lifted his head, raised his chest, took a long breath, stretched one arm up, curved his back, stretched out one huge leg, then the other and yawned a great, satisfactory, thunderous yawn, just as you and I would do. For a moment or two he settled back luxuriously, closed his eyes, opened them again and

the impulse to stretch came. Another long breath, a series of contractions and stretches, again a huge bellow of satisfaction. He grasped his club, jumped to his feet—Ab was himself again.

This is the way to wake up. Countless generations of our early human ancestors fell into this natural way of reassembling their energies from the arms of sleep. Nature, the great practical scientist, taught them. She is a hard school mistress who teaches by the process of elimination, permitting only the successes to graduate and perpetuate their kind, to teach their children her lessons, and *this* is one of nature's lessons. It is one of these mysterious life ways at which the wise men of the East marvelled but the wise men of the West analyze, understand and teach.

For the wisdom which has been good for 100,000 years, and for reasons science has but recently revealed, we have taken the awakening inspiration, the natural stretch, as the first of our Seven Morning Exercises. It has been proved by the race, by nature, and by the biologist, in the laboratory, therefore it is good for you and you will like it. It is probably the only exercise that fifty million people in the United States take daily. If we could look into their homes as seven o'clock rolls across the continent, we would see this daily awakening.

At the baseball game twenty thousand men will stand at the beginning of the seventh inning and as if on command yawn and stretch for exactly the same reasons that Ab and you and I do when we get up in the morning.

WHEN THE ALARM CLOCK RINGS

"Oh, how I hate to get up in the morning!
Oh, how I'd like to remain in bed!"

When the alarm clock rings lie quiet for a minute and then start to wake up.

Place the hands on the shoulders, raise the chest, take a deep breath, push the head and elbows back, twist the body to the right, stretch the left arm up and stretch the right arm out. Give a good twist, writhe and wriggle and let go that good old yawn. If the windows rattle it is a good sign.

Rest a moment, take a few good comfortable breaths, put your hands on your shoulders again and get that impulse! Let nature take this exercise into her own hands. All you have to do is to start it and make it go good and strong and you get the results which you need and which we as scientific and practical men want you to get.

RESULTS OF THE STRETCH

Most of the muscles of the body have been immobile during the night. They have all been kept

by the vital force in a quiet state of constant tension. Some muscles have been contracted, some have been stretched, but because they have been quiet, all of them have become slightly stagnant. If there is the slightest tendency to rheumatism real stiffness will occur. Nothing will clean these muscles of stagnant material so well as muscular contraction. Nothing will prepare them for the day's work except exercise. So, therefore, Nature gives us our first morning call for the yawn and stretch.

MECHANICAL EFFECTS OF MUSCULAR CONTRACTION

Now for a little science. Each muscle is composed of fibers laid alongside of each other. You have seen them in beefsteak or better in corned beef. Take each one of these little bundles apart and you will see even smaller fibrils. Among these fibrils run minute blood vessels, arteries and veins and nerves as well. When the muscle contracts it squeezes all the little blood vessels and it squeezes its own fibrils too. When it relaxes, the blood again runs quickly through the vessels, filling them fuller than before. The next contraction squeezes more blood out of the vessels into the veins which take the blood away. The next contraction permits more blood to get in until a working muscle, Bainbridge,

the English physiologist, states, *contains eight times more blood than the muscle at rest.*

Muscular contraction, therefore, cleans out the muscle tissue, squeezing it just as we would squeeze the water out of a bathing suit by wringing it between the hands. Contraction makes more blood come into the muscle and increases its nutrition. The muscle is an automatic self-squeezing sponge. So this is what happens to all of the muscles of the body when we wake up properly. They are cleaned and tidied up for the day's work and a fresh, new supply of blood is given them.

We will have occasion to refer to this effect later. The seeker after good health in great abundance will remember the wonderful effects of muscular exercise on the muscles themselves, for these local effects exert powerful influences over the health and mechanical workings of the rest of the body.

WHAT IS IN A GOOD STRETCH

Nature is a good guide. There is none better. She has led the human race upward from the lowest levels of life to its present advanced state and if we are to go forward we must follow her broad path, but not too closely. While Nature's ways are best for the race by and large, she is wasteful and sometimes permits valuable individuals to perish. If

they were wiser they might survive and their wisdom with them.

When we improve on Nature's methods they become habits and she adopts them. The awakening stretch, for instance, is full of hints for the constructive biological scientist. It has a series of beneficial effects which, secured at the threshold of the day, make it mentally and physically stronger and better and fill it with a greater abundance of health and efficiency.

Let us see what she is about. Analyze the stretch, pick it apart scientifically and then reinforce, emphasize and apply Nature's hints to our purpose. Science is only Nature using her brains. While the stretch contracts a large number of muscles, it emphasizes two sets which are of paramount importance, the *muscles of the neck* and the *muscles of the trunk*. These are the most important muscle groups of the whole body. Large arm muscles are out of date; a bulging biceps, the physical culturist's joy, is of use for the ordinary man only in magazines, movies and when displayed to the admiring feminine spectators on the beach.

The *neck muscles* hold up the head, straighten the cervical spine and also the upper part of the backbone to which the ribs are attached. The ribs are lifted; they in turn expand the chest and make it

more effective as an organ of respiration. A high head and a straight back makes us feel more able and worth while. Every one instinctively recognizes the high head as a sign of pride and something to be proud of to back it up.

Nature, however, does not go far enough in her stretch. But we take her pattern and use it as a basis of our seven exercises which in effect are one diversified stretch.

The *trunk muscles*, particularly those of the abdomen, rival the cervical muscles in importance. They form the abdominal wall. If they are strong the man is self-contained, girded with strength, a solid unit of muscle and bone. If they are weak, he is slack, loose and flabby, his vital organs unprotected and insecurely supported. The foundations of life are weak. There is no unity.

In our first exercise, Nature's own stretch, these muscles give a preliminary contraction or two. We take the hint, develop the idea and introduce a vigorous exercise to get this result in greatest measure in Exercises 3 and 5. And what is more, in each exercise of the seven, these muscles are employed in a different way with the result that the seeker after good health in great abundance develops a powerful sheath for his vital organs as strong as flexible steel and as lithe as woven silk.

Organic Massage

In the stretch, the twisting of the body alternately squeezes and stretches the abdominal organs as the trunk is flexed and twisted. It provides a hint of natural massage, and massage for centuries has been a valuable method of stimulating organic action but particularly organs that are tired, lazy or that have been merely asleep. This is a tremendously valuable bit of the preparation for the day. So important is it that a whole exercise, No. 4, absolutely unique in character is devoted to this purpose and the principle will be found woven into four other exercises.

Circulation

While Nature in her wisdom gathers in all these advantages, perhaps the effect she desires the most is the powerful stimulus given the circulation by the natural stretch. This result is entirely unknown to the physical trainer who still thinks that exercise is for the muscles alone, and even to the scientific world, this result is comparatively new. It is caused by the raising of the ribs. This increases the size of the thorax and acts upon the circulation in such a way that the pools of blood which have collected quietly in the body reservoirs during the hours of the night are drawn up and thrown into the circulation. This effect is of tremendous value and is obtained

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in greatest measure by the use of the second exercise of the series which immediately follows the stretch.

Thus we get from the first exercise a contraction of the muscles in general, a definite emphasis on the neck and abdomen, a little organic massage and a preliminary stimulation of the circulation.



CHAPTER VI



INSPIRATION

BABY'S FIRST BREATH

When the baby first sees the light of day his first important business is to take a deep full breath. He keeps on breathing all the rest of his days. The first breath is the eagerly looked-for sign of the real beginning of an independent life. It is the first in-bringing of the vital influences of the outside world into the life and person of the child. Ever afterward until the last breath is taken, there is an ebb and flow of the life-giving forces of the universe in rhythmic accord with the life-receiving and utilizing forces of the individual.

THE PHYSICAL BASIS OF BREATHING

The greater the importance of any human process, spiritual, mental or physical, the greater the im-

portance of providing a sound physical basis therefor. Breathing is a physical act. It is a movement of the body that makes the air come into the chest. Strangely, the air cannot be forced into the lungs; it can only be invited in. The raising of the chest wall and the pulling down of the diaphragm merely serve to create a partial vacuum which the air rushes in to satisfy. If there is any obstruction in the nose, pharynx or throat from adenoids or other disease the air finds it difficult to enter and the body is unsatisfied. If there is no obstruction the air vesicles in the lungs expand until the chest falls again and the air returns once more to its source.

THE ASPIRATION OF THE THORAX

When the chest cavity is enlarged and the suction effect is created the pull of the vacuum is exerted not only upon the air but also in a most important way upon the blood vessels that enter the chest. The heart is of course located between the lungs. It has great veins running to it from the neck from above and through the diaphragm from below. When the chest enlarges, the suction of the chest makes the blood in these veins run more rapidly from the head and abdomen, into the heart. The heart in turn pumps this greater supply of blood into the lungs where it meets at once the fresh supply

of new air. In this way the lungs are filled with both air and blood and when the breath goes out the blood goes out faster too. Thus the chest acts as a blood pump as well as an air pump. It is continually, in sure, slow cadence, sucking the blood into itself and urging it on forward through the arteries.

This can easily be observed in the rise and fall of blood pressure in the arteries of the arm. It is lowest as the chest wall rises and retards the output of the heart and highest during the time when the chest is beginning its contraction. The blood pressure rises as the chest is being emptied.

Now it is beginning to be more clear why a deep long breath is taken when Nature wants to wake us up. It will be clearer still when we realize that the blood that is sucked into the chest comes from the abdominal cavity as well as the lower limbs. In the abdominal cavity surrounding the intestines there is a set of veins which are very elastic and capacious. They are called the splanchnic veins and their capacity is so great that the physiologist calls them "The Splanchnic Pool." This pool is where the blood sleeps. When we wake up in the morning and prepare for the day's work one of our first physiological duties is to call the blood from its sleeping place and put it to work circulating throughout the

body, and to do this we have devised an exercise which, patterned after the natural form of breathing, reinforces and amplifies to the greatest degree its circulation-awakening effect.

PUMPING

This is the second exercise. It is called "Pumping," because it literally sucks the blood out of the splanchnic pool, the resting place of the blood, and drives it into the circulation. As we have seen ordinary breathing will do this somewhat. Certain types of forced breathing will do it more, but pumping does it better than any other form of exercise or breathing that we can discover or devise.

This exercise consists in lifting the chest wall and making the chest cavity as big as possible. Ordinarily this would result in the air rushing in, but in this exercise we prevent this by closing the mouth. This, therefore, doubles the pulling effect of the chest upon the blood and serves to drain the splanchnic pool much more rapidly and completely than does mere breathing. The diaphragm, instead of being pulled down as in ordinary breathing, is actually sucked up and the abdomen becomes hollow as the chest is raised. All the contents of the abdomen are pulled by the diaphragm up toward the chest.

During the time that the upward "chest big" position is held, this great suction which is called *the aspiration of the thorax*, is taking place. This is the reason why the "chest big" position is held for six counts out of eight. It is because this position gives us the main effect of the exercise.

SUGGESTIONS

The Pumping exercise consists in raising the abdomen and chest alternately without raising the back from the bed. For some people who are not accustomed to exercise or deep breathing it is difficult to learn. It will help the beginner to imagine that his chest and abdomen are a seesaw—when one comes up the other goes down. Making the chest big gives a sensation of pulling; making the abdomen big a sensation of pushing, and the idea of an alternate push and pull helps some beginners to get the correct motion.

Sometimes placing a book on the abdominal wall and lifting the chest and pulling in the abdomen until one can no longer see it, and on the second part of the movement pushing the book up as high as possible, will convey the right idea. The beginner should pay no attention to the breathing until he has learned the movement, then he will hold the

breath and stop breathing while the exercise is taken. At first it should be done only three times and a rest for three full breaths taken. Afterward this can be increased to five times. The usual dose for the beginner is three times repeated with rests until fifteen times are done. The regular dose is five times five.

If it is desired to increase the strength of the diaphragm a weight can be placed on the abdomen, preferably a sandbag or a bag of shot. This will increase the effect upon the abdominal organs and help to develop the diaphragm. It is not recommended for a beginner and should not be undertaken until a physician has gone over the abdomen to see that it will do no harm. Some enthusiasts use a twenty-pound sandbag on the abdomen and some have gone so far as to develop both the diaphragm and abdominal wall so that they can safely permit a full-grown man to balance himself on the abdomen. This is overdoing it and for most people it would be dangerous. Nevertheless, I would rather see these muscles developed than merely the muscles of the arms and legs.

It should be remembered that the part of the exercise which is most effective on the circulation is the pulling up which emphasizes the aspiration of the thorax. Pushing down ordinarily should not be



REVERSED BREATHING

An unique form of breathing, difficult to accomplish but producing a high degree of aspiration effect upon the abdominal organs. The position in which the lungs are filled with air despite the flexion of the body.



REVERSED BREATHING

The position of complete *expiration*. The air has been squeezed out of the lungs as fully as possible at the same time the chest is *raised*. Note the slim waist, high chest and the utilization of the ancient "wrist cue" to aid elevation.

emphasized. Especially should one be cautious in pushing down too hard on an abdominal wall that is weak.

BREATHING EXERCISES

There are over seventeen useful varieties of breathing exercises which the well equipped physical training teacher should know how to use. There are many other varieties of breathing which have been "invented" from time to time. One of the most useful of these is reversed breathing.

REVERSED BREATHING

It will be recalled that the Pumping exercise increased the pulling effect of the chest upon the sleeping place of the blood in the abdomen, the great splanchnic pool, and exerted a far greater sucking effect on the abdominal organs than ordinary breathing, even in its most vigorous form.

There is a peculiar form of breathing which is very difficult to learn but when it is well done produces a somewhat greater suction on the abdomen. I call it "Reversed Breathing." It is best learned as follows:

Position: Kneeling on the floor, sitting back on the heels with the hands on the knees.

1. Take the breath *in* slowly and at the same time bend forward bringing the head down as close to the knees as possible. This is exactly opposite to the ordinary form of breathing where the head and chest are lifted on inspiration.

2. As soon as the maximum amount of air is in the lungs there is a slight pause, then the head and chest are slowly lifted, the body is gradually raised and the breath is sent out between the closed teeth with a hissing sound. The body continues to rise, the chest to be lifted as long as the breath lasts. At the same time the hands are slowly lifted from the knees with the thumbs turned out and the fingers turned directly backward close to the side.

This movement produces the maximum thoracic aspiration. It is patterned after a movement which has been used in all probability for many centuries by the philosophers of the East who sought to discipline the body and to make it a perfect residence for the divine spirit.

CONCLUSION

Thus there has been presented the second exercise of our daily series. It has been devised to gain one of the great beneficial effects of a natural exercise in a far greater measure than Nature herself could provide. It is the result of many years of research

and experiment and is presented to the public here for the first time with the confident expectation that it will be an efficient aid to the seeker for good health in great abundance.



CHAPTER VII



HOW MANY SIDES HAS A BED?

Count them.

The practical furniture manufacturer says two, the right side and the left side, and we cannot prove that he is entirely wrong, but like most merely practical people he doesn't go far enough.

When I was a boy and came down to breakfast all worn out with the daily struggle to get my teeth brushed, my hair parted, my shoes shined, and my big nickel watch wound up, with nothing but breakfast to eat, my grandmother would say, if I showed any signs of strain in my usually bright, sunny disposition, "Well, boy, I guess you got out on the wrong side of the bed this morning." So there are two more sides to a bed, a right side and a wrong side.

This cannot be denied. I have had experience and no doubt you have also. Experience is a good

teacher and what I have learned has been incorporated in this book which might have been given the sub-title "A Practical Treatise on Getting Out of the Right Side of the Bed."

The whole success of the procedure depends upon the recognition of the fact that there are two more sides to the bed, just as sure as possibly can be. There is the warm, comfortable, cosy inside of the bed and the cold, unattractive, workaday outside of the bed. The difference between the two is enormous. There is no comparison. It takes an alarm clock, two or three wifely summons, and the urgent prodding of necessity to drag us outside the bed.

THE KICK-UP

The "Kick-Up" method avoids all this struggle. It is quite unnecessary to get out of bed. All we have to do is to bring the outside of the bed to the inside. They become one and then getting up requires no effort. In fact, after this exercise is over getting up becomes the logical, attractive thing to do, for the comfortable inside of the bed has disappeared and we are up and in the world of get-busy-and-go-to-it.

This is where the present-day systems of daily morning exercise fail to establish the daily habit

and fade away even when they are accompanied by the stimulating strains of the phonograph. They assume that a man is out of bed, standing in the middle of the room in his pyjamas with a happy smile on his face. Far from it. He is right where he was all night, snug and cosy inside the bed. In the many years of my experience I have found that even the best of exercises have very little effect when they are not done. For this reason every one of the seven exercises is the natural thing to do and leads naturally to the next in order and, frankly, the first big purpose of the Kick-Up is to get you up and out of bed. It's necessary.

HOW TO DO THE EXERCISE

The Kick-Up can be done in four seconds or less, one for the right leg kick, one for the left kick, a third for lifting the legs together and a fourth and last second for throwing them over the side of the bed and letting them lift you up to the sitting position.

It should be quick, snappy and decisive. To the experienced it is nothing to send the bedclothes flying well over the footboard at the first kick, half way across the room, leaving the left leg to kick defiantly at nothing but the atmosphere. (I presume you sleep alone. If not, a little team work

is desirable.) See how far you can kick them. Go on kicking after you have kicked them off. Kick a half dozen times or more. It is a good way to get rid of the comfortable weight of the night's sleep. It is a fighting, defiant action, a splendid thing to gird the soul for a vigorous go-ahead day. Life today is just as full of fighting as it was when the hungry dinosaurs and the sabre-toothed tigers were prowling around our own primitive lairs. Some men, like some of the lower animals are most dangerous when flat on their backs. Members of the wildcat tribe, for instance, when threatened, turn over on their backs and present to the enemy an array of teeth and four vigorous legs armed with sharp claws, each leg tingling with power and danger to the enemy.

As we awake in the morning the first enemy we have to overcome is the slothful, comfortable encumbrance of the bedclothes, and our best defensive reaction to the confining weight of ease should be a vigorous kick which will send all comfortable handicaps to the wind.

This disposes of the bedclothes. Next, raise both feet to the zenith, pointing the toes gracefully if you like, and let the legs fall over the side of the bed. (This is the "right" side of the bed, of course.) Then let Nature take its course. As the feet strike

the floor you find yourself sitting on the edge of the bed looking the world right square in the eye and ready for anything that dares to oppose you.

RESULTS OF THE KICK-UP

Of course the main purpose of this exercise is to get you up, and it does its task neatly and with dispatch. It has other values quite as important. The leg raising squeezes the abdominal contents and helps to reinforce the circulatory stimulation which has been started previously by Pumping. The compression of the abdomen also helps abdominal organic massage and the psychic effect of kicking stimulates a feeling of aggressive attack which is a good frame of mind for the early hour.

These exercises, simple as they may seem, are the simplest forms of a group of the best exercises that can possibly be given for the strengthening and training of the muscles of the abdominal wall.

ABDOMINAL EXERCISES IN THE HORIZONTAL POSITION

Man naturally stands upright, but gravity is continually pulling him down. As a baby he crawls on the floor on all fours in the old biological position. As he takes his place as an active worker in the world he stands up straight. If he has strength and

good vitality the head will be held high, the chest up, the back will be straight, and the abdomen flat and strong, but let age, laziness or disease undermine strength,—the head droops, the chest flattens, the abdomen bulges, and all the organs of the body—heart, liver, intestines, slump down and forward. The fatal mistake that is made by many teachers of physical training is to confine their exercises to the standing position. In this position even exercises of the trunk have to overcome the weight of gravity. To reduce the waist line the abdominal contents must be lifted. Enter any gymnasium, athletic club, or school where these exercises are taken and you will see arms moving and trunks bending but abdomens still bulging. This is especially unfortunate because one of the most important principles in the intelligent use of exercise is as follows: "*The body and its various parts tend to remain in the positions in which they are exercised.*" Abdominal exercises taken lying on the back have the advantage of not being required to work against the force of gravity, in trying to push the abdominal organs up into their proper places. Thus the exercise loses none of its effect.

This fact can be applied to putting on corsets when the abdomen is weak and bulging. We often recommend that they should be put on lying down.

When we wish to develop the natural corsets of the body, the muscles of the abdominal wall, in most cases it is advisable to do many of our exercises on the back. These muscles are so important that the whole series is largely concerned with them. The seeker after good health will do well to adopt for his own use several of the exercises of this type and will extend the four seconds of the daily Kick-Up a minute or more. If he has an abdominal wall that is weak like most other people in civilized communities, he cannot do better than devote two or three minutes out of the fourteen hundred and forty minutes in a day to this purpose. The seeker after good health in great abundance will train the abdominal wall to unusual strength.

Other exercises taken standing up will be used later to reinforce the standing up position to which man is entitled if he really deserves to be called a man. They will be considered later in Chapter IX.

ADDITIONAL EXERCISES IN THE HORIZONTAL POSITION

Exercise No. 1. *Knee Raising Triad.*

Position: Lying on the back.

1. Raise the right knee until it touches the chest and at the same time grasp it with the hands and press it into the body.
2. Stretch the leg back to its original position.

3. Do the same with the left leg.
4. Return left leg to position.
5. Bring both knees to the chest together.
6. Return legs to position.

Repeat 4 to 16 times slowly.

Action

This exercise stimulates the circulation, massages the abdomen and strengthens the abdominal muscles, the rectus abdominis especially. It is a simple, elementary exercise and when done slowly, eight counts to five seconds, it does not arouse much heart action.

Values

This is one of the most useful exercises for every day. The pressure upon the abdomen by the knee and thigh gives a most effective abdominal massage. Fat collects on the abdomen as vitality ebbs away. This exercise will prevent the collection of fat by actual pressure, by stimulating the tissues to churn up the fat and by stimulating the internal organs to greater vitality. It is an excellent exercise to preserve the youthful figure because its effects are not only local but organic. It is an excellent exercise for constipation, the great bane of civilized life. The pressure of the thigh is exerted first upon the begin-

ning of the large intestine, the cæcum, located in the right lower corner of the abdomen. From the cæcum the intestine runs upward and for this reason the contents of the bowel are likely to collect at this point and constipation results. At the same time this lazy mass lies directly on top of the appendix which suffers from the pressure. This is one of the most fruitful causes of appendicitis. The thigh squeezes the contents of the cæcum up into the colon and dislodges a menace to health.

On the left side of the abdomen there is a similar place in the intestines where the contents often become lodged. This is the sigmoid flexure which just precedes the rectum. This portion of the bowel is S-shaped and is likely to become partially kinked, stopping the onward movement of the intestinal contents. The impact of the left thigh on the sigmoid flexure mechanically squeezes the bowel and stimulates its movement.

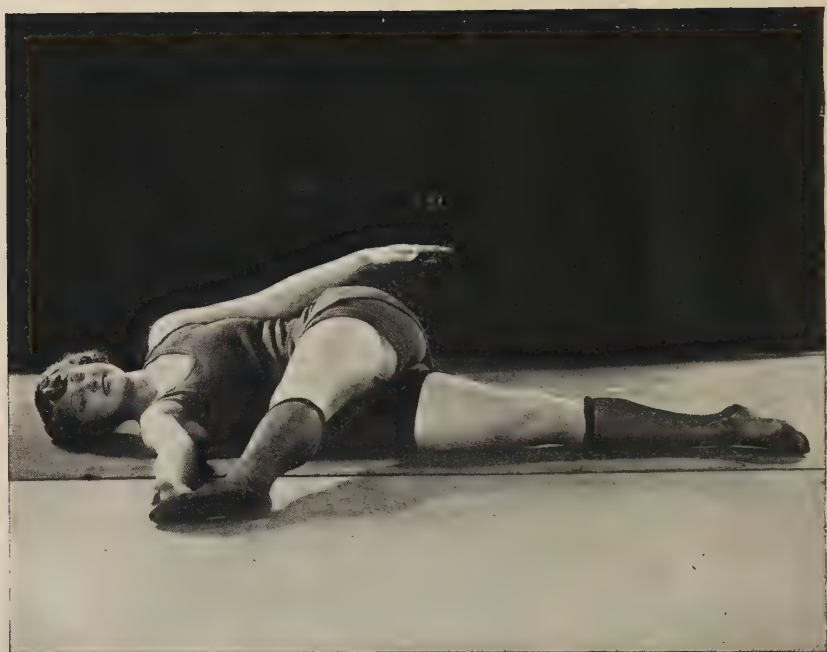
THE SIGMOID APPENDIX SPECIAL

The intestinal stimulation effect of this exercise can be increased by placing the left hand clenched into a fist over the lower right hand corner of the abdomen, just over McBurney's point, the guide to the location of the appendix. When the right thigh comes up it will make the effect very much greater.



THE SIGMOID APPENDIX SPECIAL

An excellent intestinal tonic. Note the position of the fist, well down in the groin pressing on the sigmoid flexure of the colon. This can be made more effective by pulling down the knee with the opposite hand, like a nut cracker



THE CROSS OVER (see page 92)

An internal clothes wringer which massages the abdominal organs, twists the spine and relieves many a backache.

When the left knee is raised the right fist should be inserted in the same manner, very much as a nut is put into a nutcracker.

At this point it is wise to take counsel of your physician. If the appendix has an old abscess left over from a previous attack this exercise might be dangerous and if in the sigmoid flexure on the other side there are old ulcerations or if there are any ovarian complications of an inflammatory nature, harm might result. Of course, if you have been gone over by your health doctor and he gives you a periodical examination, you are safe and can go ahead and get great benefits that will come from a constant practice of Knee Raising.

Uses

Knee Raising can be put in the morning series. It should be done slowly. The whole triad, right, left and double, should consume from five to ten seconds. Sufficient time should be taken to grasp the knee and press it well into the body, for this is the effective element of the exercise. The triad should be repeated from four to sixteen times depending upon your strength and the amount of other similar exercise taken. This exercise is one of the great life-prolongers, and happy is the person who makes good use of it.

LEG RAISING TRIAD

When you become accustomed to knee raising, you can keep the leg straight and lift it to the vertical in a similar manner, and you are doing the LEG RAISING TRIAD.

TEST OF THE RECTUS ABDOMINIS

One of the most popular instruments in my office is the machine which tests the grip. Everyone wants to know how strong he is and tries to make the little hand climb up higher and higher over the dial. A grip dynamometer will keep a dozen boys young or old interested for a full half-hour.

But the abdominal wall is far more important than the flexor muscles of the forearm which make the grip. Here is a real test of its power.

THE "L"

This test consists in making the trunk and legs form the two arms of an "L." The easiest way is to sit in an armchair, place the hands on the arms, lift the body until you are sitting on the air. Then raise the legs straight forward until they are perfectly horizontal and at right angles to the body. It is not hard to do this for a second or so but it requires muscle to hold the position for ten seconds, perfectly still without a quiver and with the toes neatly pointed and touching. For every second you hold the legs



THE "L"

(Rectus abdominis test)

A test of abdominal muscle strength. When you can do this and hold the position without a quiver for ten seconds with a smile on your face you possess a good strong abdominal wall.

thus you get 10% and ten seconds will give you 100%.

This is an excellent test. It should not be used as an exercise, however, because of the compression of the chest. It is used a great deal in gymnastic contests as one of the elements in feats of gymnastic skill and strength. In the country you can practise this same exercise hanging from the limb of a tree and, if you really wish to do something difficult, raise the legs to the "L" position, then continue them upward until you touch the toes to the limb. Continue lifting the body, sliding the legs upward until they cross the limb and you are up above it with the feet down, head up and the limb across your thighs. This is called "circling the bar" and anyone who can do it is beyond doubt in possession of an abdominal wall strong enough for all contingencies.

THE CROSS OVER

Position: Lying on the back with the arms stretched out at the sides at right angles to the body.

1. Lift the right leg upward and cross it over to the opposite side until the toes touch the left hand. Try to keep the shoulders on the ground and the arms in exactly the same right angled position.
2. Return foot to place.
3. Raise left leg and touch left foot to right hand.
4. Right foot in place.

Action

This exercise has a great many of the benefits of both Knee Raising and Leg Raising. It has abdominal compression and massage of the large intestine with the training of the muscular walls as well. Its additional contributions lie in the fact that it twists the trunk and squeezes the abdominal contents very much as the old-fashioned washerwoman used to wring the clothes by twisting them in her hands. When the right leg crosses all the way over to the left side the right side is squeezed and the left stretched. This is reversed on the next two counts. All of the benefits of organic massage are obtained.

In addition there is a splendid effect on the spine. All of the little bones which form it are twisted on each other, first this way and then that, an effect which Nature tries to get in her everyday ordinary stretch. A prominent gynecologist told me the other day that he thought 180% of the women suffered from backache because most of them have backaches in two or more places. Most backaches, of course, have their origin outside of the spine. The spine itself is only the poor victim of reflected pain. While we cannot cure an organic condition by spinal massage, we can make the spine rejoice by a well executed series of auto-massage movements. This

exercise (and others which will follow later) constitutes a self-applied semi-chiropractic treatment which has helped to take many spines out of a discontented state and make them happy again.

Where the spine is attached to the pelvis there are two joints, the sacro-iliac joints, which frequently become jammed and painful. The rolling motion of the pelvis incidental to the exercise gives them a great deal of motion and stimulation. This exercise is sometimes of great use in conditions of this kind.

Uses

The Cross Over is a good exercise to put into the daily regimen. It forms a good combination with the Knee Raising for it is a milder exercise than Leg Raising. It helps many cases of constipation, and under a physician's care it has given a great deal of relief and help in conditions of pelvic congestion.

It should be done at a moderate rate, one count to each second with a snappy kick to each movement. It should be repeated from eight to sixteen times.

THE BICYCLE

Position: Lying on the back, knees close to chest. Arms at the sides, left leg extended, right leg bent.

1. Imagine that you are riding a bicycle and make circles with the feet just as if you were

pedalling upside down. Keep the knees close together and every time the foot comes up see that the knee strikes the chest. Make the circles about two feet in diameter.

Values

This is a great abdominal auto-massage. The internal organs are thumped and pounded every time the thigh strikes the abdomen and where the exercise is really well done the knee should strike the chest and produce the same result upon the heart and lungs. This causes the greatest stimulation of the intestines and makes this one of the best exercises for constipation. At the same time the muscles of the abdominal wall are held in a sort of contraction and are exercised at the same time; the best possible way to make them short and taut as well as strong.

This exercise is hard work. It is the most vigorous of any of the exercises hitherto described. For this reason those who are weak in any way should not do it except a very few times with frequent rests and under careful direction. It stimulates the circulation and forms an excellent physiological exercise. It will develop endurance but it must be remembered that in so doing it costs considerable effort which the body must be prepared to expend.

THE SCISSORS

Position: Lying on the right side, the right arm stretched under the head, the left arm bent so the fingertips lightly touch the floor in front of the chest. Legs straight. The head rests comfortably on the arm. The whole posture is without the slightest tension. (The exercise is best done on the floor on which a blanket has been spread. The beginner may wish to place a small pillow under the hips.)

1. The left leg is swung forward and the right leg back. Both legs are kept perfectly straight, toes pointed.
2. The action is reversed, the legs changing places.

Action

This exercise consists in an action very much like straight-legged walking, similar to the opening and closing of the scissors. The movement is rapid, a hundred and twenty to a hundred and fifty counts to the minute. The greatest difficulties for the beginner are in keeping the balance on the side, in keeping the legs straight, the knees stiff and in swinging the under leg far enough. It is also hard to make the leg swing back as much as it swings forward. If the exercise is properly done the impetus of the legs will make the body slide along the floor in the direction of the feet and unless the right hand holds on

to something one will crawl by little jerks to the other end of the room. This is one of the signs that the exercise is done properly and the more marked the tendency to crawl, the more correct and vigorous is the action.

Another mistake that all beginners make is in holding the body too tense. It should not be tense at all. At first, of course, there is a tendency to roll forward on the face or back but this will be overcome as the legs get into their stride. They then act the way a gyroscope stabilizer acts on a ship and the action becomes perfectly steady. The fingertips may be placed on the floor in front of the body. At first they will be needed to keep the balance. Later, as skill develops, they may be raised entirely from the floor.

Results and Values

This exercise has very much the same effects as rapid walking or mild running. It employs many muscles of the body so vigorously that it stimulates the heart and lungs and calls upon the whole body for work. It is a physiological exercise and therefore should be used very little in the daily morning series. It can be used best at night before going to bed. It is an excellent sleep-producer. It is ideal for use in gymnasiums and sanitariums where body



THE SCISSORS (Front view)

A vigorous exercise welding the trunk into one solid flexible column. Note the relaxed arm used as a pillow and the one finger support for balance.



THE SCISSORS (Rear view)

One of the most valuable advanced exercises for women. It should be begun gradually and used in moderation at first, for, while it does great good, it is hard work.

building can be made the whole business of the day.

The greatest value of this exercise lies in its building the trunk muscles into one solid elastic column. In running the effective action of the legs is only made possible because they are firmly attached to a vigorous, solid trunk. The legs can't run by themselves. Running, with its rapid rhythmic change of strains, must have the trunk as a secure foundation. It must be all of one piece and strong. The Scissors exercise has the same action as running with the effect of gravity removed. The organs do not have to be held up from the lower part of the abdomen and all the muscular force can be devoted to the action.

The effect on the abdominal organs is different from any other exercise. They are held up in place and the muscles are moulded around them. Therefore the Scissors is of greatest effect in conditions where the abdominal organs have slumped,—gastroptosis, enteroptosis, protruding abdomens. This exercise, many women will be delighted to hear, is the best that has ever been devised for the reduction of fat on the hips. Fat is not only ironed away by the heavy massage through the weight of the body resting on the hips, but the heavy rhythmic action of the hip muscles themselves aids the reduction.

Combined with Knee Raising this exercise is an

ideal method for getting fat off the stomach. If these two exercises are done enough a sylph-like figure can positively be guaranteed and it is strange that someone has not yet sold this secret by mail at \$10 per secret.

Method of Use

The Scissors, it must be remembered, is a vigorous exercise. The average weak-waisted woman cannot do it more than six times without straining the muscles of the side and panting for breath. She is not strong enough to do the exercise a sufficient number of times to do her much good. The only way to get the extraordinary benefits of this movement is to start in at six times on each side and increase the number one time daily until it can be done fifty, sixty or a hundred times on each side. When this point is reached the weak woman will be weak no longer.

This is one of the most valuable exercises that has ever been devised and no course of body training is complete without it.

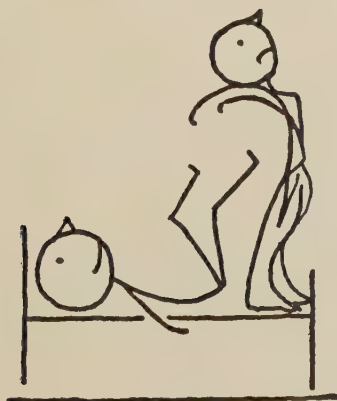
CONCLUSION AND SUMMARY

Our brief, simple Kick-Up exercise, the third in our series of seven, has been shown to be a member of a group of exercises of great importance. The

four seconds' work will be expanded into thirty seconds or more by judicious selection from the horizontal abdominal exercise series.

The exercises described are but six of several score that have important values. These are among the best. There are others equally good or better but I do not feel justified in describing them for general use for they should be practised only under trained supervision.

The health physician who wishes to keep his patients well, the practitioner of the new specialty of health, will find great use for these while the seeker after good health in great abundance will make many happy discoveries of their effect upon his well-being and efficiency.



CHAPTER VIII



MASSAGING THE VITAL ORGANS

WHEN BUDDHA WAS A BOY

Many centuries ago when Buddha was a boy and our own ancestors were naked savages, the mighty in wisdom and learning were gathered in the serene retreats of the Eastern world, north, south, east and west of the eternal peak of Mount Everest. The upward struggle of the whole human race, century by century, from its early series of birth epochs was carefully studied and recorded. It was handed down in symbol, tradition and mystery. It was precious. It was preserved from defilement from the touch of ordinary people. Wisdom was the priceless heritage and possession of the priest clan alone.

In ancient times, in that cradle of the human race and all of its mysteries, the great Asiatic East, there

developed a series of physical exercises which were used in the course of the training of the priest. The body was to be brought under control. It was to be made subject to the will. The breathing was disciplined and could be reduced to two or three deep breaths a minute. The heart beat was also subordinated to the will. The movements of the muscles of the internal organs, the whole alimentary canal, were subject to control. Much of the priestly effort was directed toward the discipline of the body, its perfection as an instrument, so that it might aid the release of the soul from its long series of incarnations and rebirths on this earth and wing it forward into Nirvana, the peaceful serenity of heaven.

Some of these physical exercises have from time to time come through the priesthood to the common people. They have been taught for a price. Some of those that are available are useless; others have turned utterly from their proper purpose, but there are a few which may be used with great benefit to mankind.

One of these is Churning, or Kundalini, which I have placed as the fourth of our seven exercises, the center and peak of the series. It is in all probability over four thousand years old. It was used long before the Pharaohs gathered their tribute

from the Nile. It has many forms; the best for health development as I use them are given below.

The preceding exercises have been taken lying down. Churning is done sitting on the edge of the bed halfway up to the upright position.

KUNDALANI

Churning consists in making the middle portion of the body describe a circle. It is very difficult to do. It is comparatively easy to sit and make the head and shoulders describe a circle, but this is only a poor substitute with only a tenth of the effects of Churning. To anyone who has ever used a carpenter's brace and bit to bore a hole, the idea of the exercise is easy to understand. The middle of this tool which makes a horizontal circle round and round is like the middle of the body; its upper part, the brace, is like the head which stays in one place, and the lower part like the hips which have only the slightest movement.

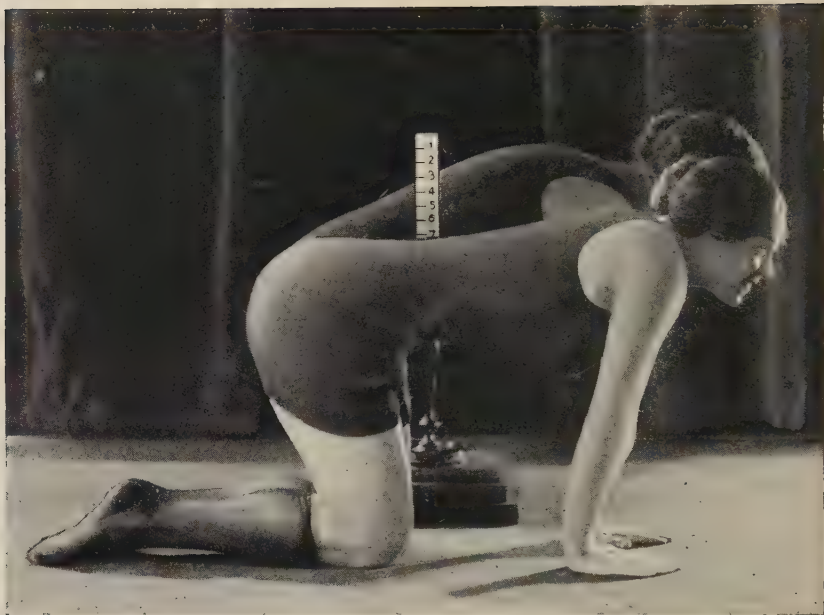
The learning of this movement is the bridge over which the seeker for good health must pass. It will not come easy. It requires study and patience, but there is no effort that man can make in his own behalf that will bring greater rewards.



LEARNING TO CHURN

The forward position. Head up, chest up, ready to bend the body in a curve to the right on its way to the backward position.

The backward point in the circle of the abdomen. Ready to make a curve to the left as the trunk comes to the forward position.



THE CAMEL

Churning in the old biological position, on all fours. All the organs hang from the spine in their original position and many of the kinks are taken out of the colon.

LEARNING THE MOVEMENT

Sit on a hard-bottomed chair, hands on the knees, facing a mirror. First you should learn the elements of the movement which correspond to the two diameters of the circle which it forms. The front and back diameter comes first. Make the middle of the body come forward. It is then in the most forward position you go through in making the circle. This will raise the head and straighten the back. Next pull the middle of the body backward. It reaches the rearmost point on the finished circle of movement. The head will droop, but it should not move either forward or backward, right or left; its motion is only down and up. Drop a string with a little weight on it from the chandelier just over the top of the head and see if you can keep it strictly in line. Practise this until perfect.

The learning of a lateral side to side diameter is harder. Still facing the mirror, make the body curve to the right. If you wear a vest, the bottom button should move from four to six inches to the right but the top button must remain strictly in its place. Come back to the center again and make the lowest vest button travel to the left. If perchance you don't wear a vest, put on a belt with a buckle. Make it travel right and left while the head

stays just where it should be, under the plumb line.

In this movement the hips will rock from side to side. When you go to the right the left hip will be raised. When you go to the left the other hip will be raised. During this time the shoulders remain facing the mirror and do not twist.

When the two diameters have been learned, start at the front with the belt buckle forward as far as possible, then go around the circle, the buckle traveling to the right. Continue until it is *back* in the hollow of the bent-in body as deep as possible. Again continue and make it go to the left as far as possible; go on then until you come forward and have completed one rotation.

This is Churning; one of the oldest exercises in the world and possibly the most valuable of them all.

When you have learned the movement you should try continually to make the circle as large as possible. You should try to make it as smooth as possible. Most people make circles at first that are full of bumps and more like irregular squares than anything else. This is due to a lack of muscular ability or actual physical defect. When Churning is learned to the right it should be learned to the left as well. If you have trouble learning Churning in the sitting position try learning the variations at the end of this chapter.

EFFECTS OF ORGANIC AUTO-MASSAGE

The greatest result of this exercise is the massage of the internal organs which it accomplishes to a greater degree than any other, even the Pumping and Trunk Exercises which have been prescribed. Massage is a measure which has been employed in the cure of disease for many thousands of years. It has been used in India, China, and Japan from the dawn of history.

Churning has valuable effects upon every part of the structure of the internal organs. It squeezes the blood from them and creates a suction which is supplied by new blood. This abolishes the malnutrition occasioned by sluggishness. It removes the cinders, ashes and waste of organic activity and brings in new, fresh, revivifying supplies. An organ half sick from neglect takes courage and renews its life.

Massage not only hurries the blood current, but it also quickens the current of the lymph flowing through the minute channels between the clusters of cells which make up the structure. The fibrous framework of the organ is stretched and squeezed and stimulated.

Stagnation is the preliminary to death. A shake-up is the renewal of life. So if you wish your liver

well and desire to keep it comfortably on the right side where it belongs, give it its daily massage.

ANTI-CONSTIPATION

Other organs in the abdomen get the same stimulation, the kidneys, the suprarenal glands, the pancreas, with all of their functions essential to life and health. But most of all, the intestines need our help. They are aided by an active liver for a good flow of healthy bile stimulates them and prevents putrefaction, pain and trouble. A lazy large intestine causes constipation and according to many writers, constipation is the root of all evil. The accumulation of rotting, putrefying food waste in the large intestine is unquestionably a great menace to the health of civilized man. It is an even greater danger to woman because the physical inactivity of women makes them subject to it. Nine out of ten sick headaches are caused by constipation, most "stomach upsets" are caused by constipation. The continual bathing of the whole body by the poisons of constipation which get through the blood and which the liver and kidneys try to carry away, is, in the opinion of many physicians, the most frequent cause of high blood pressure, Bright's disease, degeneration of the heart, and death. While modern science has conquered smallpox and has brought

diphtheria, typhus and malaria and yellow fever many stages toward the vanishing point, it has failed to stop the ravages of the diseases of the kidneys and blood vessels. The diseases that cripple and finally kill our valuable active business men in their fifties and sixties are heart disease, nephritis and arteritis.

It is fair to state that the daily practice of this one exercise alone would save almost innumerable lives while the practice of a good all-round health and exercise program would unquestionably add years of useful activity to countless executives, lawyers, business men and valuable citizens of all kinds. No one medicine or exercise is a cure-all, but Churning comes more nearly to playing the rôle than does any other medicine or exercise I know of that can be done within the four walls of a room.

WHEN TO CHURN

Churning should form a part of every period of morning exercise. It should be done twenty times right and twenty times left, changing at each ten. Do it slowly and with care to make each circle as large and as vigorous as possible. The religious devotee of India is likely to use Churning for one-half to three-quarters of an hour at a time. Needless to say, Churning with its extraordinary mechani-

cal effects upon the abdominal organs must not be undertaken when there are serious abdominal inflammations which may be active or stimulated into activity.

Nevertheless, it is being employed in practice and hospital for the relief of old inflammations of the large intestine, in cases of colitis, adhesions and chronic invalidism. This is a matter, of course, which should be undertaken only upon the advice of a skilled physician who is well informed on exercise and points again to the great desirability of the annual health examination.

VARIATIONS

The original position for Kundalini was sitting cross-legged with the heel of each foot tucked well under the opposite hip, with the hands placed on the knees. For ordinary purposes this position has no advantage whatsoever over the sitting position on the edge of the bed.

The most valuable variation and the one I use most frequently is a series of three exercises, the last of which corresponds to Churning. The first two are like the preliminary practice in learning the exercise in the sitting position. These are called the Pusycat, the Dog Wag, and the Camel.

The Pussycat

Position: On the hands and knees with the arms and thighs straight up and down.

1. The back is arched as high as possible, just like an angry pussycat. I find that people can do this exercise more readily when they think of the pussycat than they can from any other description.
2. Bend the back down as far as possible, making it hollow just as if it were heavily loaded.

Thus the trunk is bent down and up, corresponding to the first preliminary exercises, the front and back diameters practised for Churning. The same inward contraction of the abdomen occurs when the back is arched.

The Dog Wag

Position: On the hands and knees.

1. Just the way a dog wags his tail, twist the hips to the right without moving the head and shoulders. All the bending is done at the waist line.
2. Twist the hips to the left.

This exercise corresponds to the practice of the second exercise used in learning the Churning. These two exercises are also to be done in learning the third

exercise, the Camel. If you have had any difficulty in learning Churning, you can learn the Camel on the hands and knees and then when you do it sitting down, you are doing Churning.

The Camel

This exercise consists in putting together the Dog Wag and the Pussycat. They make the larger animal, the Camel. I have called this the Camel because I once rode on one of these animals and the motion, a combination of pitching and tossing, seemed to be precisely the same. I do not know whether this exercise has ever been used before, but I believe it will have a great usefulness in the future.

Position: On the hands and knees.

1. Raise the back as in the Pussycat.
2. Keep up like the Pussycat but shift the hips to the right as in the Dog Wag.
3. Keep the hips over to the right but let the back bend as in the second motion of the Pussycat.
4. Keep the back bent and wag the hips toward the left.
5. Keep hips wagged to left and raise the back hard. Continue.

The trunk in this exercise will make a circle very much the same as in Churning. The Camel has

two great advantages over Churning. In the first place the movement is more free. The muscles of the trunk are employed more vigorously and the bones of the spine get more training and flexibility. But the greatest advantage lies in the fact that the trunk is horizontal instead of being set upright. You will recall that we saw that the great advantage of taking abdominal exercises lying down in preference to taking them standing up was due to the fact that gravity did not need to be overcome. The muscles were not required to lift up the abdominal organs before they could exercise in their proper places. This was applied to the Camel. The position on all fours is the old biological position. In the dawn of the race the organs were all hung from the backbone. When we get back on all fours we place them in their most comfortable and favorable position for action.

Churning then, in this position, gives them a massage in the most effective form. This has many advantages, most of which are too technically medical for a brief, general book.

CHAPTER IX



CORSETS INSIDE AND OUT

“God hath made man upright but they have sought out many inventions.”—*The Preacher*.

ACCORDING TO BIOLOGISTS

According to the biologists, it took about five hundred thousand years to make man upright. The clay into which the spirit of life had been breathed by the Great Spirit became moulded by the shaping of countless centuries into a being ready to rise to the stature of a man. The change came gradually. In the greatest battle for the possession of the Unfailing Spring of the Valley of Abundance, the giant grandfather of Ab led his band to victory, brandishing a terrific club which he had torn from a giant red pine. His right foreleg had become an arm and his forepaw a hand. He beat his breast with his clenched left fist like a resounding bass drum that

accompanied the howling war cries of his victorious clan.

With the first use of a weapon he rose on his haunches and stood in a squatting upright position. He made use of his hands to make him a man. He taught Ab's father a few of the tricks he had learned and the grandsons did credit to the tribe. They grew up an unconquerable, two-fisted family that learned to use their hands in many new ways. Their hardy progeny chipped out flints and made knives. With these they slew and skinned animals and made themselves clothes and, when others died of cold, they went through hard winters in splendid condition. They became artists as well as fighters. They learned the trick of keeping flocks, of raising seed-bearing grass. They developed agriculture. They began to live in groups, they made villages, they cherished tradition, order dawned and became the first law of a heaven-destined civilization.

God had made man upright.

To become upright was a long, long task. To keep upright is difficult. The attraction of gravity is continually pulling man down again to the place whence he came. It took countless ages of evolution to make him stand up. It takes only one lifetime; in fact, it takes only one day of activity, to lay him horizontal again at night. He rises on the

morrow refreshed but he goes through the day matching his strength against the tenacious clinging fingers of gravity which, should he weaken, make his head droop, pull his shoulders down, flatten his chest and loosen his abdomen. Mother Earth is constantly calling,—calling him home.

PTOSIS

It is a difficult thing to stay straight. It requires balance. It requires muscle. The head must be poised on the shoulders, the chest held up, the back kept straight and unbowed. Otherwise a slow sagging down results.

This sagging down is called *ptosis*. Whenever we see it it is a sign that the vitality of the man has given way in part or in whole to the effect of gravity. His strength has been over-matched.

SKELETAL PTOSIS

Gravity pulls on every part of the body. It affects the skeleton. A man may be six feet tall when he is full of vitality and "every inch a man," but when he becomes tired, discouraged or weak he loses from three to four inches in height! This is due to the increase of the curves of the backbone, the drooping of the head, the slumping of the pelvis. This is called *skeletal ptosis*. It is caused

by the relaxation of the muscles which hold us up straight.

VISCERAL PTOSIS

Gravity affects the internal organs. It can do this only when the abdominal muscles give way and let the lower abdominal wall bulge out. Then the intestines slump downward, the liver and the stomach follow, the chest flattens and lets the heart go down also. A bulging abdomen is a sign of weakness at every age. In the baby suffering from malnutrition or rickets, the little panting chest sits insignificantly on top of a big, round, soft abdomen. If the baby lives the results of this show in later life when the lower ribs bulge and the upper chest shows depression. The bones tell the history of early illness. In later life we find many a prosperous looking vest covers a weak, bulging abdomen with all of the organs accustomed to their depressed condition and doing the best they can against the handicap of indolence. A strong abdominal wall prevents this. Artistic ideals of manly vigor from the time of the Greeks have been expressed in statuary of men with strong, slim waists. Not only has there been the noted strength of the muscular column of the rectus abdominis at the front, but it has been

flanked on either side by plates of muscular armor. Art has instinctively interpreted the basis of masculine vitality, a strong abdominal wall, as an element in masculine beauty. True art is always biologically correct.

A strong abdominal wall is a pledge of length of days. Its vital support will give every body process a great advantage. Disease will shun its possessor. Every chance for happiness will be doubled.

A weak abdominal wall, on the contrary, is like a tombstone of lost hopes and lost vitality. It is the sign of feebleness, a pledge of pain, trouble and early departure.

BLOOD PTOSIS

When the war broke out I was sent to one of the great training camps as an observer and I found the best point of vantage from which to make observations to be the rear rank of a regular company as an ordinary buck private. On Saturday afternoon we stood "inspection" and the inspection, particularly the standing part of it, was no joke. We stood at attention for from thirty to forty-five minutes. This was the last bit of labor to be done in a long, laborious week. The men were tired out. Every few minutes or so there would be a thud, the clatter of a rifle as it crashed to the ground and a candidate

for a commission would be stretched on the ground in a dead faint. In a few moments another, and perhaps another would fall. But it was the tallest men who fell the fastest.

They fainted, because they got an attack of Blood Ptois. The machinery which keeps the blood up in the head got tired and gave way and the heart could not pump enough blood to the brain to keep it awake. This was because the walls of the abdominal blood vessels weakened and bulged and allowed the blood to collect in a great stagnant pool. This is all very well when we sleep at night but it will never permit a man to keep his brain going in an upright position.

TESTING BLOOD PTOSIS

Blood Ptois is revealed by taking the blood pressure lying down and comparing it with the blood pressure standing up. If the blood pressure falls on rising it shows that the circulation is weak. If, on the contrary, it rises it shows that the machine for keeping the blood well distributed to the upper part of the body is in good working order and the man has physiological power enough to be upright. The heart rate is also taken into consideration, for when the circulation succumbs in part to gravity and fails to send the blood up to the heart in sufficient quan-

tities, the heart beats more rapidly than it does when one is lying down. In fact, one may get a fair idea of the efficiency of his circulation control by comparing the heart rate lying down with the heart rate standing up. It should not increase more than ten beats to the minute. Persons in poor condition will show a difference of thirty, forty or fifty beats to the minute increase on standing.

Blood ptosis tests should of course be made by the physician as a part of his regular medical examination.

THE TICKLE TOE

In an old stable near Madison Avenue in New York City, Dr. Walter B. Peet was training a group of candidates for the Columbia University crew. The previous year Columbia had gloriously won a great race from her college rivals. But this year most of the older heroes had been graduates and preparations were made to get out a large number of new candidates.

Dr. Peet looked over the raw recruits and delivered himself somewhat as follows:

“Young men, you have a good deal to learn. You’ve got to understand that you don’t row entirely with the arms; they are the least important for they

are only connecting rods. You row with your legs, you row with your backs, but most of all you row with your guts! Now, stand up there in a line and do this exercise a hundred times and every time you report for training start right in and roll up your hundred."

We lined up and learned the exercise, which I later called the "Tickle Toe." It did its bit in making a strong crew, and one of the squad at least has never forgotten the exercise. He has given it directly and indirectly to several hundred thousand persons, young and old, and now he is giving it to you.

HOW TO DO THE TICKLE TOE

Stand up straight, with the feet spread wide apart. You have had all the coddling you are going to get today. Now you are rearing up on your hind legs and facing the world.

Position: Stretch the arms out to the sides.

Lift the air with the flat hands just like the wings of an aeroplane. This lifts the head, expands the chest, raises the ribs, straightens the back and is a fine exercise in itself.

1. Twist the trunk, swinging the right arm back and the left arm forward, turning the body at the

same time so that if you had a wand across the shoulders from fingertip to fingertip it would be kept perfectly straight. Swing as far as you can.

2. Swing forward and all the way around to the left in a similar fashion, not forgetting to turn the shoulders with the arms, making the whole twist at the waist. Now the left arm is back.

3. Swoop that left hand way down and around until it touches the right big toe, bending the knee so that it touches the chest. The other arm goes back up into the air.

Hold this position momentarily, then repeat the same exercise. The left hand which is down by the floor swings up and back where it came from and you aeroplane back to the right, facing the right and making the twist at the waist as before. The right hand is now back and of course that is the hand which next swoops down to touch the opposite toe.

This is an easy exercise to learn and a simple one to do. Its rhythm is "swing, swing, touch," "swing, swing, touch," corresponding to the two aeroplane swoops and the Tickle Toe position itself.

SELF-MADE CORSETS

Aeroplaning, that is, twisting the body with the arms sailing about in circles, is a splendid exercise

for the trunk muscles which form the sides of the abdominal wall. The front of the abdominal wall is formed by the rectus abdominis, the back by the backbone and two heavy columns of muscle, the *quadratus lumborum*. But running from the ribs above the quadratus in back, around to the front and down to the public bone is a triple set of muscles. The fibres of the innermost run transversely and it is called the *transversalis*. The fibres of the second run obliquely upward and it is called the *internal oblique*. The fibres of the outermost run downward and forward in the direction of the fingers when the hands are placed on the hips, and is called the *external oblique*.

The fibres of these muscles interlock with the muscles of the chest. These muscles are the great conservers of vitality. They are the best kind of corsets, for they have been provided by dear old Mother Nature. They are three-ply, reinforced in front and self-adjusted. They never wear out and require only a little attention. You need never buy a new pair as long as you live, but you must take care of the ones you have for they bag and bulge when you become weak, tired or old. If you can keep well and fit and not work too hard, these are all the corsets that anyone needs.

While this is true, it is just upon this point that

rests the great divergence of opinion with reference to corsets. Some enthusiastic hygienists preach that corsets are never necessary. On the other hand, some would have us believe that corsets are essential to everyone. Both extremists are half right, each, therefore, doubly dangerous.

Corsets remind me of the definition given by the small Sunday School scholar to the question, "What is a lie?" He replied, "A lie is an abomination unto the Lord and—and," he paused a moment, "but an ever-present help in time of trouble."

The woman with strong-toned abdominal muscles has every chance of a good digestion, freedom from constipation, every assurance against diabetes, a positive protection against obesity. The all-important functions of the generative organs, so often fraught with danger, pain and disability, have every favorable circumstance. The heart and lungs are supported, the circulation is strengthened, the emotional system is buoyed up, and life is stronger and brighter as well as longer and more full of happiness. Strong abdominal muscles are biological riches. They are obtainable by every woman who has the intelligence and will take the time and trouble to find out the exercises which produce the desired results and proceed to use them as consistently as she takes her meals.

WOMAN'S RIGHT TO BEAUTY

Corsets used for the purpose of beauty have their values. Women are always justified in assuming Nature's biological virtues if they have them not.

"Little dabs of powder, little spots of paint,
Make the pretty ladies look like what they ain't,"

and the corset helps.

The best way, however, to exhibit biological attractiveness is actually to possess it. Put the rouge in the cheek itself, the sparkle within the eye instead of on the eyelashes, and make the form of the body tell the fine truth of attractive good health. I know of many cases of women who have ceased being ugly and become beautiful by adopting Nature's stock of beautifiers under intelligent medical prescription. On the contrary, a good many have been half-ruined by exercise charlatans and fat reductionists, but many more are gradually deteriorating by neglect, hard living, hard work, or laziness.

CORSET BUILDERS

The most universally used trunk exercise is ordinary trunk bending. It has the advantage of simplicity and vigor; it not only strengthens the abdominal wall, but it gives an excellent auto-massage as well. In its simplest form I call it the N-E-W-S

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because it bobs the head to the four points of the compass and it gives news to the internal organs that something is going on.

N-E-W-S

Position: Standing, trunk erect, feet widely spread apart, hands on hips.

1. Bend forward and down as far as possible.
 2. Bend backward as far as possible.
 3. Bend to the right.
 4. Bend to the left.
- Repeat 4 to 12 times.

This exercise is done with an enthusiastic swinging motion, one position swinging directly into the next without stopping. The new convert to exercise will find difficulty in bending back as far as he should. A good rule is to bend back until you can see the opposite wall, at least where it meets the ceiling if not half-way down the wall to some picture which can be taken as a landmark.

There are as many ways of doing trunk bending as there are teachers of physical training. This method gives as much benefit with as few disadvantages as any. It is important to draw the abdomen in when the trunk bends forward for the muscles will stretch when the trunk goes backward and we



N-E-W-S

The East-West part of the movement, good abdominal massage and a waist line reducer.



N-E-W-S

One of the best and simplest internal corset builders.
This illustrates the North-South part of the movement.
Note especially the vigor of the backward bend.



THE CROSS KICK

A vigorous, trunk-twisting flexing exercise, which will put strong, elastic, tissue into the flanks, and reduce the girth of the waist and hips.

desire to have shortening as well as strengthening of the abdominal muscles.

THE CROSS KICK

Stretch the arms straight out *sideways* at the height of the shoulders. Then, without letting them drop, kick the *left* hand with the *right* foot. Return the foot to place and then kick the right hand with the left foot. This gives the whole body a vigorous twist and it also trains the body to be able to stand tremendous twists and hard strains. It will put whipcord into the flanks quicker than almost any other exercise I know.

CONCLUSION AND SUMMARY

This chapter has been devoted to the strengthening of the abdominal wall and the moulding of a man into an upright being with a trunk as strong and straight as that of a Norway pine. A man or a woman so girded about with strength has developed a priceless quality and one which will do much to insure a long life filled with health, happiness and efficiency in great abundance.

CHAPTER X



IN TRAINING FOR LIFE

PEP STEPS

THE VICTIM OF PNEUMONIA

A few days ago I was called to the bedside of one of the eminent young lawyers of the East. He had an attack of pneumonia. Everything that could be done for him had apparently been done. Physicians and nurses were in constant attendance, and oxygen was being administered continually. I examined the patient, verified the diagnosis and proceeded to listen to his heart. It was beating with great rapidity, with shallow, hurried throbs, trying its best to push the blood through the engorged lungs. This was to be expected. I carefully measured its size above and across and turned away with a bitter sensation of defeat, for I knew that that heart could

not last out the day. It was too small, too weak,—it had never been trained. There was nothing that could be done. It was too late. If he had trained his heart with but a thousandth of the attention he had used in training his brain, not for the running of a hundred-yard dash but for the running of the race of life, with the long strain of pneumonia as a hazard, he would have won through, whereas at the end of a few hours—he died.

THE MAN WHO WON HIS BATTLE

Not so, however, the architect whose beautiful structures are springing up in New York's most fashionable streets. He was also brought down with pneumonia in the same week and his age tallied to a year with that of the lawyer on a nearby street. But there was a great difference in the two men. I knew the architect's heart for I had worked with it. He had been sent to me by an alert leader in medicine six months previously with the request, "Put him in condition. He needs it." I had found him flabby inside and out, slightly rheumatic, his liver with a grouch, and his heart a disgrace to a human being. He caught the training idea, however, and pursued his course steadily and with success. His flesh hardened, his liver became not only reasonable but co-operative and his heart

took on the steady action of a high-powered automobile. His eye got bright, his back straightened and there came a bit of a swagger and lilt to his walk.

But, "even as you and I," he put in a week's hard work on a big job and used up his reserve. A pneumonia germ caught him and laid him flat. But this was the difference: he did not die,—he was out again in three weeks. He was in training. A good heart helps fight disease.

HOW TO TRAIN THE HEART

The heart is a muscle. It can be trained like the biceps. It can be made strong, or it can be allowed to become weak.

During the last ten years I have frequently examined the hearts of the six-day bicycle riders at Madison Square Garden. They are enormous in size. They amaze my friends the professors of medicine, for they have never seen anything like them. Doctors as a rule believe that a large heart is a bad heart. It is true that many large hearts are bad. When a valve leaks the heart must work harder and grows larger; when the heart is neglected it may grow big and fat like the abdomen; when the arteries become hard and the kidneys fibrous, the blood pressure rises and the heart must work hard and grow large to meet the strain. Lastly, when the heart weakens

it fails and dilates, also a large heart. A large heart may be good or bad depending upon its quality of structure.

But the heart that is too small is weak and feeble although still in a sense normal. The heart we want is one that is muscular enough and strong enough to carry a man through a long life and meet the emergencies by the way, but not big enough so that it constitutes a needless burden to itself.

TRAINING THE ARTERIES

The arteries can also be trained. They also have muscles. They dilate when the throb of the heart fills them with a quick rush of blood. They contract upon the blood mass and make it flow ahead in the interval between the beats. In ordinary daily life they throb but little and their walls tend to become limited in movement.

Muscular exercise makes them dilate and contract much more than ordinarily. The muscles in their walls contract and relax just as do the muscles in the arms and legs and in just the same way they refresh and cleanse themselves by their own activity.

Muscular exercise trains the arteries, insures the proper distribution of the blood and reinforces every activity of the body.

EDUCATING THE VEINS

There is one set of veins the health of which is of greatest importance and these are the veins of the abdomen surrounding the intestinal tract. They form the splanchnic pool where the blood rests at night and where it stagnates when people are only half awake all of the time. When these veins are strong they contract when people stand up and the blood is kept up under good pressure in the head. When they are weak and relaxed, the brain is robbed of its blood supply and people faint.

When the muscles of the abdomen are strong, trained by the trunk exercises just described, they help the veins squeeze the blood upward, but the veins themselves must do a great deal of it. There is no way of training them to be strong more efficiently than by muscular exercise, although we can do a great deal by the proper use of hot and cold water bathing and spraying.

A well-trained set of abdominal veins is the basis of all endurance. It has been found that heart failure, frequently given as the cause of death, is usually not heart failure at all: it is vein failure. The heart is willing enough to go on pumping if it only has blood to pump. People die in many diseased conditions because the veins of the abdomen have

become paralysed and the man simply bleeds to death in his own abdomen. This is one of the newest and most promising chapters that have recently been written in the science of medicine as it deals with the basis of strength, health and efficiency.

DIGESTION

When we exercise and a muscle contracts it uses up both food and oxygen. One of the happiest sensations that man can experience is that keen eagerness of tissue which pervades him as he comes in from a long hike, an afternoon of golf, a horseback ride, a bout of boxing or tennis, washes up and sits down to a good meal. This is one of the joys that result from health and pledge its continuance.

The best gastro-intestinal tonic is exercise. In fact, there is no way we can normally stimulate the stomach and intestines except by exercise. The body is fifty-five per cent or more made up of muscle. The alimentary canal with all of its glands, the liver and the pancreas, were designed to support an active, not a sedentary, body. If this alimentary factory is run only on half time there is no wonder that all the little workers, the countless cells that make up the

structure, become lazy and get into trouble. As the old Sunday School motto has it, "Satan always finds mischief for idle hands to do."

Therefore, for the sake of the prevention of organic disease of all varieties and the extension of our years to their fullness, take exercise which affects the organic equipment.

ENDURANCE

Endurance is based upon organic soundness. Not mere absence of disease but good, healthy, vigorous action superior to the ordinary degree of only average health. The liver and pancreas, for instance, can do an ordinary amount of work and supply enough bile and pancreatic juice of standard quality to dispose of the meal you furnish the stomach, and the meal will be digested fair enough. They will "get by." This is average health, but what we want is the liver and pancreas to leap with joy upon that meal and turn it into the finest kind of body food that was ever furnished to any human tissues; to rejoice in a good job done and then go back and make up some more good digestive fluids for the next meal.

This is health plus. It is to be obtained only by wisely following out the best health science we have.

This includes good vigorous exercise. Exercise, in short, trains the whole set of internal organs to do their work better than ordinarily well and it permits the delivery of a greater amount of work and a better quality of work every day of life.

ORGANIC EXERCISE

To make the internal organs work and grow strong we should select the best exercise for the purpose just as we select the best exercises, Churning and Pumping, as abdominal exercises when we wish to massage these organs. Now we wish to make them work and it is high time.

The best exercises for this purpose are like running. Running is simple. It uses the big muscles of the thighs, hips, calves, trunk and shoulders in constant rhythmic succession. This has a splendid effect upon the muscles for it makes each one of them into an active blood pump, sucking life-giving fluid into itself and squeezing it out again with each contraction and relaxation. For this reason a little running is an excellent thing to put into the daily morning schedule after the body has been prepared for it. At the beginning, thirty-two steps is enough; sixty-four is sufficient for anyone, for it must be remembered that we haven't yet had

breakfast and we should not push the body too hard.

Running can be varied to make it more vigorous by raising the knees high up in front; touching the hands as in the knee raising exercise. It can be varied indefinitely or it can be made more interesting by changing it into rope skipping, which is one of the professional pugilist's favorite ways of getting into condition. But at best, running in one's bedroom is not exactly a joy-producing way to start the day. If we can get something that will be just as good and have a little fun at it, we can get our result and have a good time, too, and we believe thoroughly in having a good time.

THE DANCE

What singing is to speaking, what laughter is to breathing, so is dancing to exercise. When there comes sudden good news people dance for joy, they dance to celebrate great occasions, they dance to express the pent-up vitality that unexpected joys bring to the surface. Dancing is an expression of bubbling-up happiness coming out through the tissues in rhythmic motion.

Happiness, like other emotions, is never complete until it is expressed. We never fully enjoy a joke

until we laugh at it. We are never really afraid until we turn to run away, nor completely despondent until we break down and weep. To be happy fully, do the thing that expresses happiness and you will get the reward of the thing itself rebounding from its own expression.

For this reason we have turned the run into a simple little dance-like exercise beginning quietly and winding up in a climax. The Pep Hops were first used, I think, in the High School of Commerce in New York City. They begin with eight hops on one foot, eight on the other, four on one, four on the other, two on one, two on the other, and then four running steps to a stop. One has a sensation of winding up with a flourish and the final stamp of the foot seems to send a thrill up the whole spine.

It can be done to music. If you have no phonograph or radio pick out a popular song that fits the rhythm and sing it to yourself as you go along. If you get ambitious, do a preliminary sixteen counts with each foot before the eight.

The earliest dances that we know anything about were developments of the walking run. The American Indians of today in some of their dances start by walking slowly around the fire; as the music quickens the pace gets faster, each foot after it

strikes the ground is raised a little in a kind of hop, an extra accented beat. Faster still, each step has become a double hop: one, two! one, two! one, two! This is the elementary Indian dance step. It is varied infinitely, sometimes with movements of great intensity.

The Indian step can be used about the room in the morning if you wish. Pick up a ruler, turn it into a tomahawk and flourish it, scalp if you like in imagination a half a dozen pale faces who may become your easy victims because they do not take exercise in the morning.

THE SIDE ROCKER

The Side Rocker is an interesting variation of the Indian step which has a charm all its own. Begin with two hops on one foot, raising the other high to the side. Then change the feet, raising the other leg high. When this pendulum gets started it goes on by itself and you will have to hold yourself down to thirty-two counts. Try one hop instead of two as a change and see how you sail along.

FORWARD ROCKER

This is a little bit harder and it will give you something to practise. When you learn it you have one

of the steps of the Irish Lilt, the first folk dance that was introduced in the schools of New York City and practised by many thousands daily as a combination of fun and exercise.

Position: Raise the right leg in front, with the toe neatly pointed.



1. *Displace.* Give a little hop in the air and at the same time slip the right foot into the place where the left foot was and raise the left foot *back*, thus "displacing" it.

2. *Hop.* Hop on the right foot, the left still back in the air.



3. *Displace.* Give a little jump in the air and swing forward to the first position, resting on the left foot as you were before with the right foot up in the air.

4. *Hop.* Hop a little hop on the left foot, keeping the right foot in the air.



Now go ahead, rock backward and forward just the way you did the rocking from side to side. Try it now starting the left foot up in front. Thirty-two counts. For a

change hop only once instead of twice on each foot. You will like it.

THE IRISH KICK

In this step you take four hops on one foot while the other foot is flirting around and doing stunts.

Now make up a morning dance of your own. If you wish to know how to do it, ask your children who have been taught folk dances in their schools, or get the music and description from "The Folk Dance Book," A. S. Barnes & Co., New York City.



CHAPTER XI



THE STAR GAZER

HOW DO YOU CARRY YOURSELF?

“*Comment vous portez-vous?*” (literally How do you carry yourself?) is the French equivalent of “How do you do?” It is as old as the Latin tongue and an age-long recognition of the tradition that human well-being is definitely related to human carriage. As a man carries himself, so is he.

“*Cōme staté?*” (“How do you stand?”) is the way the Italians, the direct descendants of old Rome, put the question today. This tradition that the posture of a man reveals the well-springs of his health, happiness and efficiency is founded upon good biological science. If the head is held high, the back straight, the chest up, we know that there resides in that man an abundance of vitality and power that must be based without question upon

good health, and must absolutely reveal itself in all that he does and which produces happiness and success. In a woman it is shown in the high, splendidly poised head and queenly bearing. It may be true that the man who hangs his head, whose shoulders droop and depress the chest has a splendid vitality, and the young woman with the forward-poking neck, protruding hips and flapping arms may yet be a fine specimen of the human race, but I doubt it and so do you.

Splendid, straight, high, strong, good posture is a sign of vitality and efficiency. Moreover, it is a pledge of the continuance of these qualities for it is the posture in which the body is at its best. It is the posture in which the mind thinks most clearly and most effectively, in which the soul expands and stretches to its fullest height.

The 100% man has good posture.

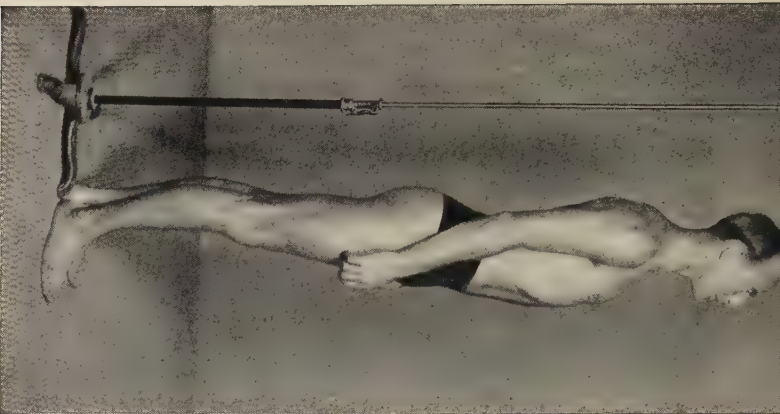
ON WHAT DOES GOOD POSTURE DEPEND?

It depends first upon a smoothly working organic equipment, well massaged, well toned up by exercise as we have seen in the foregoing chapters. Next, it depends upon the utter absence of disease; not even the first hidden forerunners of disease which sap vitality before the doctors can recognize them, can be present. It depends next upon a pride in our-



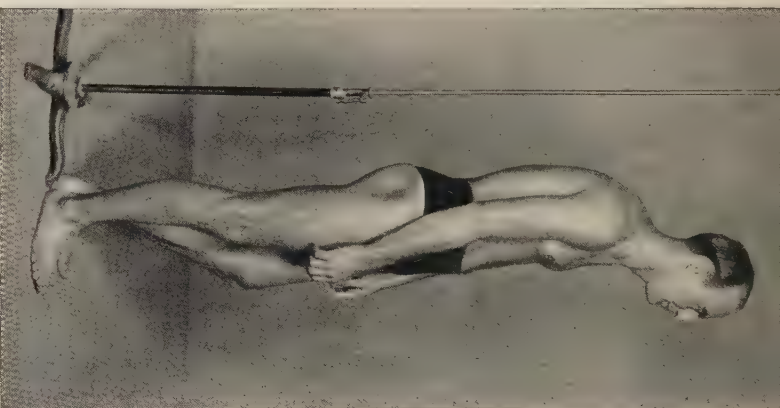
GOOD AND BAD POSTURE

A physical training teacher who cannot slump very much.



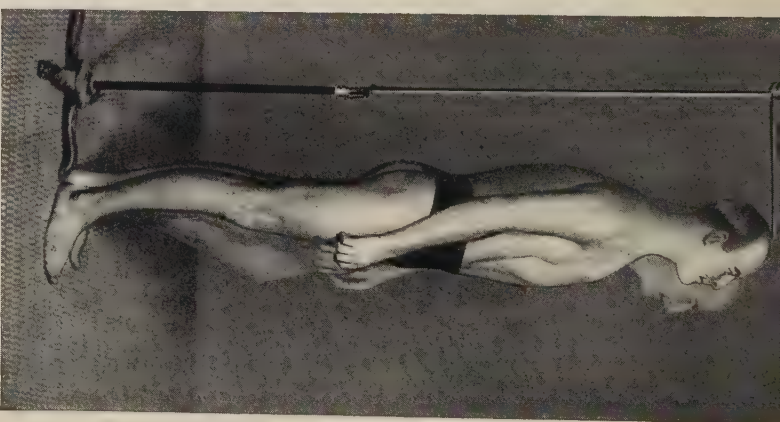
GOOD POSTURE

A lieutenant in the U. S. Marine Corps in good posture. Head up, chest up, abdomen flat at his full height and every inch a man.



BAD POSTURE

Note the decrease in total height and the generally tired look of the whole body.



GOOD AND BAD POSTURE
COMPARED

(Courtesy of The Macmillan Co.
From the *Pedagogy of Physical Training*
by C. Ward Crampton, M.D.)

selves based upon a knowledge of our own dignity and worth, although a few criminals as part of their deception have learned to copy the appearance of honest men. It depends upon *habit* and, as we have seen, a good deal rests with the abdominal muscles, a firm floor of the vital compartments which must hold up the whole organic outfit. Most of all perhaps, good posture depends upon a strong neck.

VALUES OF THE STRONG NECK

If the muscles of the neck are strong enough to hold the cervical spine straight, the back straightens, the ribs are raised, the chest cavity is enlarged, the aspiration of the thorax increases and all of its resulting benefits accrue as we have seen. In the neck are four great arteries which bring blood to the brain and nourish it. The two great jugular veins return the blood to the chest. The thyroid gland is saddled across the front of the neck. It regulates the intensity of our life processes. If it is stimulated, every tissue speeds up and the heart beats rapidly; if it is depressed, stagnation of body and mind result.

Tucked away on either side of the throat, in a fold between the larynx and the vertical neck muscles, are three pairs of sympathetic nervous ganglia which, with the nerve centers in the neck portion of the brain, control the internal organic operations,

respiration, circulation, digestion, secretion. In short, there in the neck are the offices of the business management of the whole body.

The neck is indeed an important part of the human body. Look at the men you know to be strong and successful and see what kinds of necks they have, for necks are as characteristic as faces. They tell the story of weakness and power, vitality and illness, past and present, and even prophesy what is to come.

That neck which has fine, strong, muscular pillars on either side running from the ears down to the collar-bone, and powerful muscular masses running from the back scalp down to the spine—that neck is indeed likely to be surmounted with a head worth while in this generation of high deeds and great events.

While the head controls mental operations, the neck seems to control or modify all physical operations and forms the essential connecting link between the body and mind. Thus it holds a place of critical importance. For a host of good reasons, physical, mental and psychological, a strong neck is a great possession.

THE STAR GAZER

Once upon a time we had a thick cord of rubber elastic tissue running from the spine back of the

neck which held the head up. The horse and dog have it yet, as you can see if you investigate. When we rose to the upright position we lost this ligament almost completely and we must now depend upon our muscles to hold our heads up. To get muscles that will do the job for the hours of a full day's work we must utilize one of the great axioms of physical training hitherto referred to, "Muscles tend to stay in the position in which they are exercised." Therefore we should exercise the head and neck in the position in which we wish them to stay. For this reason the last four counts of the "Star Gazer," which has eight counts in all, are devoted to exercising the muscles of the neck in the shortened position.

"The Star Gazer" recapitulates the progress of the race. It starts with the eyes looking at the ground, with the weight of the laboring hands holding the head down. On the first four counts this weight is gradually raised and pushed back, bringing the face upward toward heaven. The whole back tightens and straightens from the neck to the hip. The chest is raised, the shoulders settle down into their places and there steals through the body a sensation of rising from the ground as if about to soar forward and upward. This position is held while all the tissues adjust themselves into a splendid

harmony in accord with each other, life and the universe.

All of the work of the previous exercises becomes assembled into a unified completeness. Body and soul unite into one strong, aspiring individuality, instinct with power and ready to be launched upon the events and labors of the day.

The first four counts of "The Star Gazer" are necessary to provide muscular relaxation and circulation. The last four may be devoted to holding the position or to turning the head slowly from side to side, as it were observing the constellations from Polaris to Orion, or, as a second variation, bending the trunk gently from side to side.

This is the last exercise of the series. It is a scientific elaboration of a normal movement found in nature. It has many of the elements of the "Stretch" with which the series began, developed, however, to far greater power.

NECKACHES AND HEADACHES

Headaches are often not in the head at all but in the neck. The next time you have a headache, see if a gentle massaging of the muscles of the neck, especially where they are implanted into the bones of the skull, will not change the condition entirely. Follow this up with an exercise or two which will

change the whole circulation of the neck and head and if it is one of a series of a certain variety of headaches, it will be relieved.

NECK FLEXIBILITY EXERCISES

Necks get stiffened from pain as well as disuse.

When I was a boy one of the Bible phrases that made a great impression on my infant mind was "this wicked and stiff-necked generation" and the terrible things that were going to happen to them. I wanted to know what a stiff neck had to do with wickedness.

After practising medicine a number of years I commenced to find out, for a stiff neck is always the result of some physical sinfulness, ignorance or carelessness on the part of the owner of the neck. More stiff necks come from constipation than from drafts. The stringy, scrawny, weak neck of the invalid is the result of years of physical neglect, or what is worse, physical coddling.

Stiff, hard, painful necks must be cured by attention to the alimentary canal, diet and general exercise as well as attention to the neck itself. But the neck will not get well unless we limber it up and when it does become flexible, lo and behold! we have conferred a blessing upon all the rest of the body.

Here is an exercise that was developed for head-

ache, neckache invalids at one of our leading sanitariums by a physician who had real insight.

THE HEN PECK

The name of this exercise is no reflection upon the women who use it. Of course, hen pecking in married life is largely the result of pains somewhere in the body which find expression in complaints and browbeatings of anyone who happens to be near, usually the husband. The homeopathist believes that like cures like, and my grandfather used to say, "Cure a dog's bite by taking a hair of the dog that bit you." By the same token you might very well cure hen pecking by Hen Pecking.

Position: Head up, take an imaginary grain of corn in the hand and hold it six inches in front of the mouth.

Make believe that you are a chicken and you want that grain of corn. Reach out with the head until you can pick it up with the lips and bring it in until the neck is straight, then look up, stretching the neck and letting the grain of corn trickle down the throat. So much for one grain of corn.

Take another grain in the fingers and hold it over the right shoulder. Reach for it, pick it up, bring it in and let it trickle down the throat to follow its predecessor.



THE HEN PECK (Exercise)

Reaching for a kernel of corn on the right shoulder. Note the contraction of the muscles of the neck. While the left side of the neck is stretched the right side is compressed and the whole neck is massaged and strengthened.



RESTRICTED ROTATION

The chin is kept away from the hand and the muscles of the back of the neck are exercised in a shortened state to make them become short and strong.

Next take one off the left shoulder. Keep at it until you have swallowed twelve grains of corn, each time reaching further and further away as your skill develops. If you wish to measure the neck before and after this exercise you will find that if it is too small, it will increase slightly in size. If it is too large, this is one of the ways of reducing it.

RESTRICTED ROTATION

There are many exercises which will loosen up the neck. Here is one that not only increases its flexibility but helps to stabilize it in its proper erect position.

Position: Put the fingertips together in front of the chin and pull the chin away from them as far as you can get it.

Movement: Make a circle with the chin, going to the left, down, right and up as large as you can, keeping as far behind the palms of the hands as possible. This will strengthen, mobilize and shorten the muscles of the neck.

To those who have never tried these exercises there will be a revelation in the number of creaks, kinks, snaps and grinds that can come out of an ordinary neck. These are all due to weakness and stiffness. For this reason these exercises should be done only a few times at first. Afterward when

stiffness and creaking diminish they should be done from twelve to eighteen times. Then the chances are it will be, Goodbye pain, Welcome strength!

THE BRIDGE

The muscles of every man, woman and child between the ages of six and sixty should be strong enough to do the Bridge. It is a feat that looks very hard and possibly dangerous. If, however, one has practised the foregoing exercises faithfully for five minutes a day for two weeks, he can feel reasonably safe that he will not even get a stiff muscle from his trial of the Bridge. Everyone who seeks good health in great abundance should bring himself up to the point of trying this, for it opens a new field of interesting and valuable exercises. Moreover, it is good fun to do.

The Bridge may be approached by easy stages. First lay a blanket on the floor or use the bed if you have a good hard mattress.



Ready for the Bridge

Lie down flat, raise both hands forward and upward, continuing until the thumbs pass the ears. Keep going until you can lay the palms of the hands flat on the floor beside the head with the fingertips

under the shoulders. Next, bring the feet in until they touch the buttocks, separated about two feet from each other. Now you are in position to take the various steps which lead up to the Bridge, each of which is an exercise in itself.

No. 1. Half Bridge.

Raise the hips. This makes a slanting bridge from the shoulders to the knees which might be called the Half Bridge.



Half Bridge

No. 2. Three-Quarter Bridge.

Raise the hips again and continue raising the shoulders so that the body rests on the head, the hands and the feet. This is a little bit more like the Bridge. It might be called the Three-Quarter Bridge.



Three-Quarter Bridge

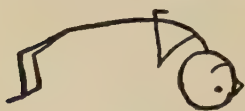
No. 3. The Bridge.

Do the Three-Quarter Bridge, then push the head back until you are looking at the opposite wall with the weight resting on the top of the head, the hands and the feet. This is the Bridge.

Now go on and develop this exercise, making it harder and harder, testing yourself out as you go along and building a neck that is really worth while.

No. 4. The Free Bridge.

This is the position a wrestler takes to prevent his shoulders being pressed to the mat when he is thrown



The Bridge

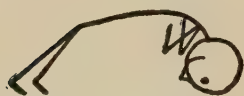
on his back. Do the Bridge as described above and then fold the arms across the chest.

You are resting comfortably on the top of the head and on

the heels. At first when you come down from the Free Bridge it is wise to put the hands back into position under the shoulders and let yourself down slowly. Later you can come down any way you like. Try some variations. Rock the head forward and backward and from side to side.

No. 5. The Rolling Bridge.

This is an achievement. You might think it is



The Rolling Bridge

impossible for you ever to attain it. You would have been encouraged and enthusiastic if you could have seen a seven-year-old poor little

rich boy who had the appearance and consistency of a wet dishrag two months previous make himself into a Bridge and turn it over into a beautiful Rolling Bridge again and again before an admiring group of his fellow campers. Or perhaps you would have been more interested to see a sixty-year-old grandmother who had been an invalid for fifteen years, in three months' time develop a Bridge that would have been a credit to anyone and in the



THE THREE-QUARTER BRIDGE

The proof of a good neck and back, if you can make this bridge "roll." This is not to be attempted until the neck is well trained.

meantime get back to her energetic, go-ahead direction of a half-dozen of her pet charities.

Unless you are tubercular, half-dead or too fat you can (after a physical examination to safeguard you) aspire even to the Rolling Bridge in time.

Position: Do the Bridge with a nice soft place for the head.

Fold the arms, lift the left leg, twist and turn the body toward the right until you have turned over completely, reversing the Bridge and resting on your forehead and your toes.

This is the Reversed Bridge. Now don't stop. Continue in the same way, lifting your right leg, twisting the body toward the right until you have turned over again and are in the position of the regular Bridge. This is the Rolling Bridge. You can keep on going until you have walked a complete circle around your own head and when you have done this you have graduated with honors in the class of physical culture and you have donated to yourself an insurance policy which will pay dividends of good health, increased efficiency and length of years at the cost of a moderate premium of a few minutes a day.

TESTS OF GOOD POSTURE

Have you 100% posture? How do you carry yourself? Does your posture proclaim you to be a 100% man or woman?

It is worth while to find this out because no man is 100% until he has the physical frame which not only reveals but supports maximum vitality. There are various complicated machines and tests without end. The best of these are the two Wall Tests which measure you against a straight vertical line in front and in back.

THE FRONT WALL TEST

Place the toes against the wall. Place the hands in front of the thighs so that the palms point upward, and press them against the wall. The thighs are just a hand's breadth away from the wall but no further. Now the chest should touch the wall while the abdomen and the nose are from one and a half to three inches away from it. Of course if you have a large abdomen and you are in the habit of throwing your shoulders back to balance it, you can't do this. If you fail on this test study your architecture. Be sure to make the thighs press the hands against the wall for it is easy enough to cheat by pulling the hips back.

THE BACK WALL TEST

Place the heels, the shoulders and the head against the wall. Now slip the left hand in behind the small of the back. If the fit is close you pass the



THE FRONT WALL-TEST

The chest touches the wall; the nose and waist-line do not. Note the hand which must be pressed to the wall by the thigh.



THE BACK WALL-TEST

There must be only enough room between the hollow of the back and the wall for the flattened hand. If there is more room than this the hollow must be decreased.

test. If the fit is loose, you fail and you must straighten the lumbar spine until you can squeeze the hand. Most people can put two hand-breadths between the spine and the wall.

Passing these tests, however, only means that you are able to take good posture. It does not mean that you keep good posture all the time. Only good vitality, good muscles and good habits will give you this. When you have arrived at good posture as a habit, with the full force of a strong organic equipment smoothly working through the twenty-four hours, then you rightly may call yourself in 100% condition.

SUMMARY AND CONCLUSION

The great purpose of the seventh exercise is to consolidate the gains made by the use of the previous six exercises. It rounds out, completes and makes the series perfect as the number seven itself is perfect. It completes the cycle of exercises which was introduced by the stretch and which follows the development of the natural stretch, for the last exercise, the Star Gazer, is its final development.

The whole series have provided for the seeker after good health in great abundance a simple, easily understood group of exercises with which he can begin and a definite set of instructions which will lead

him from exercise to exercise as his strength and prowess increase. In the last seven chapters there are exercises from which the weakest and most feeble can gain profit and others in which the strongest of athletes will find a test for his mettle.

Thus the series of Seven has gone through its gradual unfolding as the ancients unfolded the symbol of eternity the circle, into an ever-turning epicycle, the symbol of man's increasing destiny.



CHAPTER XII



THE EXERCISE SCHEDULE

AND PRESCRIPTION

Today we have the same bodily frame and organs of our fighting ancestors, but today we have all of science and the wisdom of the ages to guide us. In working out our physical salvation, we will remember with humility that we are human and recognize the rules of nature, but we shall add everything that modern science can give and bring this new wisdom into harmony with the old laws of the race.

Get your physician to fill out the following prescription.

THE STANDARD EXERCISE SCHEDULE

DAILY MORNING EXERCISE

7 to 14 minutes daily

Processes:

1. Gradual transition of mind and body processes from sleep to activity.

2. Neck and back muscles strengthened and a high head and chest obtained.
3. Abdominal muscles strengthened and toned. Abdominal auto-massage.
4. Circulatory stimulation and tissue tonic.

THE DAILY WALK

45 Minutes Daily

Processes:

1. Fresh Air.
2. Moderate stimulation of the circulation and effect upon the internal organs.
3. Mental and nervous regulation.
4. Recreation; mental rhythmizing and regulation.

THE WORK-OUT

45 Minutes [to] one hour; horseback, two or three times a week or a lively game in a gymnasium, etc.

Processes:

1. Vigorous stimulation of the heart and arteries, increasing their strength and muscular power.
2. Vigorous tissue and organic massage; increase in [metabolism and developing margin of power.
3. Having a good time, renewing youth and companionship.
4. Perspiration.

THE AFTERNOON OUT-OF-DOORS

Golf or its Equivalent

Processes:

1. Fresh Air.
2. Moderate, long-continued circulatory activity and tissue reaction; development of endurance.
3. Increase in metabolism and stimulation of the intestinal tract; appetite.
4. Mental refreshment and normalcy under normal conditions—in the out-of-doors.
5. Game interest, recreation and companionship.

The foregoing schedule gives the standard for the adult, average man. For the woman the Work-out should be modified, and for the man over sixty as well. In fact, the exercise program should be thought out, adjusted and applied individually to the individual needs for everyone. This standard, however, if adhered to throughout a lifetime, will bring the best results and rewards in Health, Happiness and Efficiency. If it cannot be followed in its entirety (and we must admit that there are some, who for various reasons cannot follow it out), then there is so much loss and lack of result.

Every man should work out his own program.

No one should omit any part of this schedule without due cause, for he will be assured that he is depriving himself of fun, profit and years. He

should first of course enlist the services of his family physician, with the *health* point of view. If he knows of no such person, he should find one. Next he should make this a family matter, going over the problem with his immediate family. He should assay the resources of his community, consult with his friends and plan his life intelligently and wisely. Each one of the items in the exercise program deserves a volume on the subject, but this book is devoted mainly to the first item "Daily Exercise," the minimum essential which gives greatest returns for the least time and trouble expended.

Standard Table of Heights and Weights-Men

BLACK-FACE FIGURES ARE THE AVERAGES

LIGHT-FACE FIGURES ARE 20 PER CENT UNDER AND OVER THE AVERAGE

HEIGHTS		WEIGHTS ACCORDING TO AGE PERIOD									
<i>Ft.</i>	<i>In.</i>	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	
4	11	89	94	98	100	102	104	106	106	107	
		111	117	122	125	127	130	132	133	134	
		133	140	146	150	152	156	158	160	161	
5	0	90	95	99	102	103	106	107	108	109	
		113	119	124	127	129	132	134	135	136	
		130	143	149	152	155	158	161	162	163	
	1	92	97	101	103	105	107	109	110	110	
		115	121	126	129	131	134	136	137	138	
		138	145	151	155	157	161	163	164	166	
	2	94	99	102	105	106	109	110	111	112	
		118	124	128	131	133	136	138	139	140	
		142	149	154	157	160	163	166	167	168	
	3	97	102	105	107	109	111	113	114	114	
		121	127	131	134	136	139	141	142	143	
		145	152	157	161	163	167	169	170	172	
	4	99	105	107	110	112	114	115	116	117	
		124	131	134	137	140	142	144	145	146	
		149	157	161	164	168	170	173	174	175	
	5	102	108	110	113	115	117	118	119	120	
		128	135	138	141	144	146	148	149	150	
		154	162	166	169	173	175	178	179	180	
	6	106	111	114	116	118	120	122	122	123	
		132	139	142	145	148	150	152	153	154	
		158	167	170	174	178	180	182	184	185	
	7	109	114	117	119	122	123	125	126	126	
		136	142	146	149	152	154	156	157	158	
		163	170	175	179	182	185	187	188	190	
	8	112	117	120	123	126	127	129	130	130	
		140	146	150	154	157	159	161	162	163	
		168	175	180	185	188	191	193	194	196	
	9	115	120	123	126	130	131	133	134	134	
		144	150	154	158	162	164	166	167	168	
		173	180	185	190	194	197	199	200	202	
	10	118	123	126	130	134	135	137	138	138	
		148	154	158	163	167	169	171	172	173	
		178	185	190	196	200	203	205	206	208	
	11	122	126	130	134	138	140	142	142	143	
		153	158	163	168	172	175	177	178	179	
		184	190	196	202	206	210	212	214	215	
6	0	126	130	135	139	142	145	146	147	148	
		158	163	169	174	178	181	183	184	185	
		190	196	203	209	214	217	220	221	222	
	1	130	134	140	144	147	150	152	153	154	
		163	168	175	180	184	187	190	191	192	
		196	202	210	216	221	224	228	229	230	
	2	134	138	145	149	153	155	158	158	159	
		168	173	181	186	191	194	197	198	199	
		202	208	217	223	229	233	236	238	239	
	3	138	142	150	154	158	161	163	164	165	
		173	178	187	192	197	201	204	205	206	
		208	214	224	230	236	241	245	246	247	

NOTE.—The average weight is seldom the best. It is usually too high.

Standard Table of Heights and Weights-Women

BLACK-FACE FIGURES ARE THE AVERAGES

LIGHT-FACE FIGURES ARE 20 PER CENT UNDER AND OVER THE AVERAGE

HEIGHTS		WEIGHTS ACCORDING TO AGE PERIOD									
Fl.	In.	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	
4	II	88	90	93	95	98	101	103	105	106	
		110	113	116	119	122	126	129	131	132	
		132	136	139	143	146	151	155	157	158	
5	0	90	92	94	97	99	102	105	106	107	
		112	115	118	121	124	128	131	133	134	
		134	138	142	145	149	154	157	160	161	
	I	91	94	96	98	101	104	106	108	110	
		114	117	120	123	126	130	133	135	137	
		137	140	144	148	151	156	160	162	164	
	2	94	96	98	100	103	106	109	110	112	
		117	120	122	125	129	133	136	138	140	
		140	144	146	150	155	160	163	166	168	
	3	96	98	100	102	106	109	111	113	114	
		120	123	125	128	132	136	139	141	143	
		144	148	150	154	158	163	167	169	172	
	4	98	101	103	106	109	111	114	115	117	
		123	126	129	132	136	139	142	144	146	
		148	151	155	158	163	167	170	173	175	
	5	101	103	106	109	112	114	117	118	120	
		126	129	132	136	140	143	146	148	150	
		151	155	158	163	168	172	175	178	180	
	6	104	106	109	112	115	118	121	122	122	
		130	133	136	140	144	147	151	152	153	
		156	160	163	168	173	176	181	182	184	
	7	107	110	112	115	118	121	124	126	126	
		134	137	140	144	148	151	155	157	158	
		161	164	168	173	178	181	186	188	190	
	8	110	113	115	118	122	124	127	130	130	
		138	141	144	148	152	155	159	162	163	
		166	169	173	178	182	186	191	194	196	
	9	113	116	118	122	125	127	130	133	134	
		141	145	148	152	156	159	163	166	167	
		169	174	178	182	187	191	196	199	200	
	10	116	119	122	124	127	130	133	136	138	
		145	149	152	155	159	162	166	170	173	
		174	179	182	186	191	194	199	204	208	
	11	120	122	124	126	130	133	136	139	142	
		150	153	155	158	162	166	170	174	177	
		180	184	186	190	194	199	204	209	212	
6	0	124	126	127	130	132	135	138	142	146	
		155	157	159	162	165	169	173	177	182	
		186	188	191	194	198	203	208	212	218	

NOTE.—The average weight is seldom the best. It is usually too high.

DAILY MORNING EXERCISE

MINUTES 2, 4, 6, 8, 10, 12, 14

	<i>Slow, Moderate, Fast</i>	<i>No. of Times</i>	<i>2nd Prescription</i>	<i>3rd Prescription</i>
I. STRETCH				
II. PUMPING by Threes Pumping by Fives Reversed Breathing				
III. KICK UP Knee Raising Triad Sigmoid Appendix Special Leg Raising Triad The "L" Cross Over Bicycle Scissors				
IV. CHURNING Pussy Cat Dog Wag Camel				
V. TICKLE TOE N—E—W—S Cross Kick				
VI. PEP STEPS Running in Place Running Knees Up Indian Steps Side Rocker Forward Rocker Irish Kick				
VII. STAR GAZER Hen Peck Restricted Rotation Half Bridge Three-Quarter Bridge The Bridge Complete Rolling Bridge				

PERIODIC HEALTH EXAMINATION

PREPARED AND PUBLISHED BY THE

American Medical Association, 535 North Dearborn Street, Chicago, Illinois

Form A

HISTORY FORM

1. Name	Country of Birth		
2. Address	White or Colored?		
3. Age	Religion	Single, married, widowed, divorced?	
4. What is your present occupation?	Why?		
5. How often have you changed your work?			
6. What are the conditions of your work?	Monotonous, Smelly, Days per week?	Dangerous, Noisy, Crowded,	Fatiguing, Seated, Indoors or out, Standing;
7. Do you support yourself,	or others,	by your work?	
8. What are your home conditions?	Alone,	Room and bed to yourself,	Quiet,
	Congenial,	Depressing,	Irritating?
9. What are your sleeping conditions?	Hours in bed,	Window open,	Restful,
10. How often do you eat?	Regularly,	Where,	Between meals,
11. Are you a moderate or hearty eater?	Meat (including fish and eggs) Baked beans Green vegetables (spinach, cabbage, etc.) Potatoes (or rice, macaroni or cereal) Pie, cake or pastry		Time at meals?
	Taking one or more helpings at a meal of: Sweets or sugar Fruit Salads Bread Butter		

12. How much do you drink daily of:
Water
Milk
13. How frequently do you use candy?
Tea
Coffee
14. Do you have a movement of the bowels daily without the use of drugs?
15. Do you take any regular exercise in addition to your work?
How much tobacco?
Indoors or out?
16. To what extent do you share in social, church, political, club or trade associations?
Under direction,
17. What are your pleasures or recreation?
Strenuous,
18. Are you subject to worries or moods, or periods of gloom and cheerfulness?
19. Have you ever been ill with any of the following, and at what ages?
Tuberculosis
Malaria
Rheumatism
Syphilis or Gonorrhea
Scarlet Fever
Diphtheria
Typhoid Fever
Tonsillitis (Sore Throat)
Frequent Colds
Convulsive Seizures
Nervous Breakdown
Migraine or Neuralgia
20. Have you been protected against smallpox, typhoid, diphtheria or other diseases by vaccination, and when?
21. Have you had any accidents, broken bones or surgical operations?
22. How often do you consult your dentist?
When last?
23. Are your parents, brothers and sisters living?
If not, what were the causes of death and at what ages?
24. Do you remember any diseases in your family which may have affected your own health?
25. Do you consider yourself in good health?
If a woman, answer these:
If not, what is your complaint?
26. Are your monthly periods regular?
Prolonged?
Excessive?
27. Have they interfered with your occupation,
by pain?
or headache?
28. Have pregnancies and confinements been free from accident?

Form B

PHYSICAL EXAMINATION RECORD

Name	Weight, Usual Present (Theoretical normal for age and height)	Temp.	Case No.	Pulse S L	Date
Hearing R L					
Urine: appearance				Corrected R L	
Feces: appearance				Sp. gr. parasites	Sugar
2. Standing					
Posture					
Muscle tests					
Nutrition					
Skin					
Superficial glands					
Female Breast					
Chest					
Hands					
Arms					
Male genitalia					
Hernia					
Legs					
Romberg					

Bl. Pres. S { Sys.
 { Dias.
 L { Sys.
 { Dias

3. Sitting

Hair

Eye reflexes

Nose

Teeth

Gums

Tongue

Tonsils

Pharynx

Ears

Heart

Lungs

4. Lying

Abdomen

Reflexes

Sensation

Liver

Spleen

Kidneys

Female genitalia

Rectum (hemorrhoids)

5. Summary: Defects of function and structure and errors of habit.

6. Advice given to the patient:

